VEMBER
908

MOTOR BOATING . SAILING

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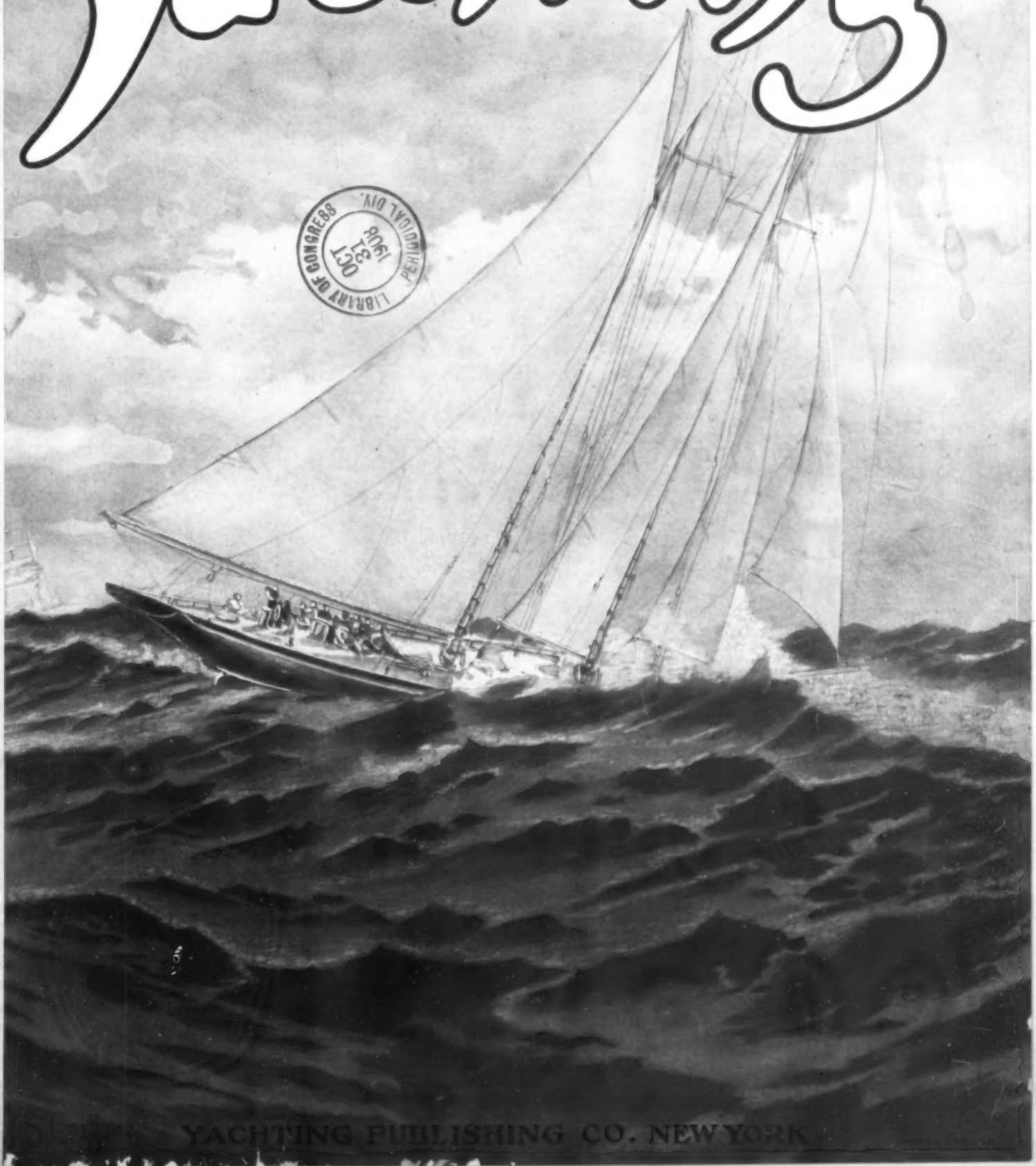
Yachting



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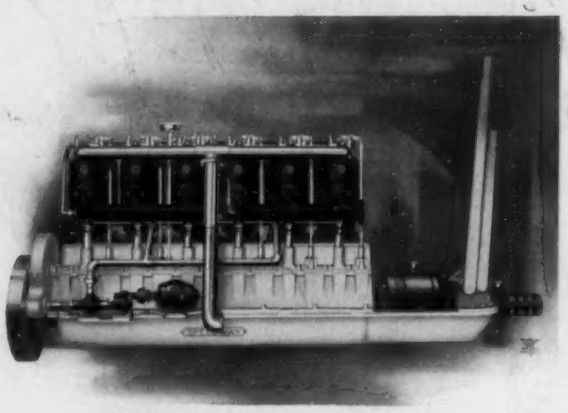
YACHTING PUBLISHING CO. NEW YORK

SPEEDWAY GASOLENE MARINE ENGINES



FULLY GUARANTEED

25 years experience in designing and building Yachts, Launches and Marine Machinery. Steam, Gasolene and Naphtha. Builders of the Only Naphtha Launch. Send 10c. stamps for catalogue.

Gas Engine & Power Co., and Charles L. Seabury & Co., Consolidated
Morris Heights, New York City

ELCO-PEERLESS EXPRESS LAUNCH

33-ft. Pleasure Launch seating eight comfortably—not a racing machine
Poughkeepsie Race—September 23, 1908. Distance 140 miles. Time 6:13:36. Average speed 22.57 miles per hour.

A most remarkable performance for a high speed Pleasure Launch, demonstrating beyond question the success of the high grade auto-marine engine when installed properly in a boat.

In the series races, the ELCO raced each day over a thirty-five mile course, on Saturday beating all boats in her class, boat for boat.

During the four days the ELCO covered 250 miles, an average speed of 22 miles an hour, without the least trouble, running smoothly and quietly, proving it a high speed Pleasure boat with a high grade engine; of best construction and equipment which we claim will "serve one on water as the automobile does on land." Boats in stock now for delivery.

THE ELECTRIC LAUNCH COMPANY, Avenue A, Bayonne, New Jersey

YACHTS FOR SALE AND CHARTER

A DEPARTMENT for the sale and charter of craft of every kind, in the interests of YACHTING's *subscribers. A special low rate is made for advertisements in this classification, which includes the making of a half-tone reproduction, free of charge, from photograph furnished by the advertiser. For rates address*

ADVERTISING DEPARTMENT

YACHTING PUBLISHING COMPANY
20 Vesey Street - - - New York.

FOR SALE OR CHARTER—Commodious, twin-screw houseboat, with large flush deck; 76 ft. o. a., 19 ft. 4 in. beam, 3 ft. draught; very substantially built; launched in 1906; bottom coppered; equipped with sails and two 20th Century motors of 20-h.p. each. Complete cruising outfit, including two launches. Dining room 17 x 18 ft.; four owner's staterooms, bathroom, toilet room, etc. Galley, engine room and crew's quarters aft. Boat used in Florida last two Winters; now in this harbor. Her attractiveness can only be fully appreciated through inspection. For price, plans and further details, apply to Tams, Lemoine & Crane, 52 Pine Street, New York City.

BARGAIN.—32-ft. hunting cabin naphtha launch. Fine boat. Can be bought low enough to warrant installing gasolene engine in place of the naphtha. Call and inspect. Excellent opportunity. Gas Engine & Power Co., and Chas. L. Seabury & Co., Consolidated, Morris Heights, N. Y. City.

FOR SALE.—Crack Herreshoff sloop built in 1905, and the "Boat of the season." 76 ft. overall, 56 ft. 10-in. waterline, 15 ft. 4-in. beam, and 9 ft. 4-in. draft. Gross tonnage, 41 tons. Net tonnage, 28 tons. 25 tons outside lead. 7-ft. headroom in cabin, which is handsomely finished. Two staterooms. Bath and toilet aft, and toilet forward. Six berths for crew forward. Sail area, 3,780 sq. ft. Carries two boats on davits. Large galley stove and ice chest. This is one of the best boats ever turned out by Herreshoff. She is exceptionally stiff and able. Apply to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE.—Hunting cabin power cruiser. Very desirable for cruising in Southern waters. 45 ft. long, 12 ft. beam, 3 ft. 3 ins. draft. Very strongly built of best materials, framing white oak, planking Virginia cedar, brass screw fastened, cabin and outside woodwork of mahogany. Very large cockpit, with waterproof canopy and side curtains. Interior of cabin finished in red cedar and mahogany panel work; has 6 ft. 6-in. headroom all parts; furnished with cushions, carpets etc. Sleeping accommodations for six. Has Sands toilet and lavatory, large water tank, galley fully furnished. Stove, pump, sink, ice box and cooking utensils, dishes and table ware. Prest-O-Light gas lights in cabin and searchlight. 25 H. P. 4-cylinder standard motor (giving the boat speed of twelve miles per hour). Extra heavy copper gasolene tank, pipes outside of boat. Fully equipped with everything necessary, mahogany trimmed dinghy boat, two anchors and cables, sailing and anchor lights, fire extinguisher, barometer, ship's clock, binnacle compass. Low price for a fine sea boat. Now in commission. Come and see her or address, W. H. Frank, Commodore Poughkeepsie Yacht Club, Poughkeepsie, N. Y.

NO. 111—FOR SALE.—Handsome, able and fast auxiliary yawl. Crownshield-Lawley. 54 x 35 x 12.7 x 5.8 ft. Centerboard under cabin floor. Copper fastened, outside lead ballast. Large cockpit and main cabin; also owner's stateroom; toilet room. Over 6 ft. headroom. Very attractive interior, finished white with mahogany trim and handsome upholstery, curtains and other furnishings. Main cabin contains two fixed berths and four extension transoms; also sideboards, desk and numerous lockers. Complete suit of sails in fine condition, used only one and one half seasons. Seventeen H. P., 2-cylinder, horizontal opposed engine, under cockpit floor, new, 1908, driving boat seven miles per hour. Acetylene lights. Absolutely complete equipment on deck and below, mostly new 1908 when boat was thoroughly gone over inside and outside. Gasolene launch and dinghy. Owner anxious to sell. Inspectable near New York. Henry J. Gielow, 50 Broadway, New York

NO. 2284—FOR SALE.—Probably the most desirable auxiliary yawl of her size, 38.6 x 27.6 x 11 x 5ft. Keel. Launched June, 1908. Strongly constructed. White oak frames, 2 ins. x 2 ins.; hard pine planking, 1½ ins. Interior accommodations consist of large cabin with four spring berths and two transom berths, toilet room, galley and forecastle with berth for man, and toilet. Headroom over 6 ft. Complete suit of sails of best quality, including storm jib and balloon jib. Good size water tank. Two-cylinder engine driving boat six miles an hour. Outfit includes anchors, cables, lights, tender, mahogany upright piano, cushions, carpets, curtains, dishes, cooking utensils, blankets, linen, clocks, compass, etc. Attractively fitted and furnished and has many novel and desirable features. Must be seen to be thoroughly appreciated. Will sell without piano for $50 less. Located in Massachusetts. Henry J. Gielow, 50 Broadway, New York.

POSITION WANTED by man and wife. Scotchman 38 years of age, chief engineer's Board of Trade certificate, eleven years' experience as chief engineer, recommended by English Lloyds. Wife refined young English woman, professional nurse, capable stewardess. Address, Capable, care of YACHTING.

ELEGANT 37-ft. full cabin gasolene launch for sale, about 9-ft. beam, 2½ ft. draft. Fine boat for the South. Has 4-cylinder, 16 H. P. "Speedway" engine. Fine order. Fully found. Gas Engine & Power Co., and Chas. L. Seabury & Co., Consolidated, Morris Heights, N. Y. City.

FOR SALE.—Speedy motor yacht 75 ft. over all, 10 ft. 2 in. beam, 3 ft. 6 in. draft, built by Williams & Whittelsey Co., 1905. Machinery consisting of 100 H. P. air reversing Standard motor, giving speed from 14 to 16 miles per hour. Construction of hull of very best material and workmanship and will stand closest inspection. Arrangements consist of engine-room and crew's quarters forward. Next aft galley. Next aft toilet, containing tub, toilet and lavatory. Next aft large saloon, containing four extension berths. Boat has cruised extensively through Long Island Sound and off New England coast, proving a most seaworthy model. Original cost $17,000, and will sacrifice to immediate purchaser at less than half of her cost. Full particulars can be obtained from Whittelsey & Whitaker, 11 Broadway, New York, N. Y. 'Phone 4718 Rector.

NO. 1659—FOR SALE.—Bargain. Centerboard, seagoing schooner yacht, 76.6 x 55.3 x 19.2 x 4.6 ft. Designed and built by well-known firms in 1905. Flush deck and cockpit. Three double staterooms and saloon. Very substantially constructed, easily handled rig. Completely found, including launch and dinghy. Price extremely low. Henry J. Gielow, 50 Broadway, New York.

32' x 10' Twin Screw, Yawl Rigged Auxiliary Cruising Yacht Lobster, Fully Equipped and Furnished; would make an Ideal Boat for Southern Cruising.

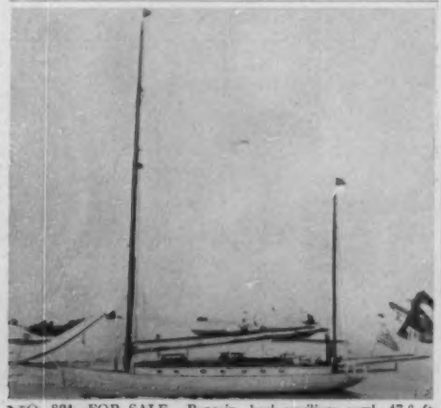
Also,

28' x 5' 2" Auto Runabout Hull; All Bright Work of Mahogany. Photos of the Above Boats on Application.

BATH MARINE CONSTRUCTION CO.
Bath, Maine.

NO. 2237—FOR SALE.—Hunting cabin cruiser, 30 x 8.2 x 2.9 ft. New this year. Handsomely finished. Large saloon, toilet. 18 H. P. 3-cylinder motor, giving speed of ten miles. Very seaworthy. All material and workmanship of the best. Mahogany trim throughout. In commission. Price attractive. Henry J. Gielow, 50 Broadway, New York.

WANTED—Hunting Cabin Launch for cruising. To accommodate at least two. About 30 feet long. Speed about 8 to 10 miles. Do not want a glass cabin boat. Give full description and price. Address W. G. Morse, 5326 Baynton Street, Germantown, Pa.



NO. 824—FOR SALE.—Bargain, keel auxiliary yawl, 47.6 ft. over all, 36.6 ft. waterline, 12.6 ft. beam, and 6.4 ft. draught. Built 1901, and in first class shape. Double stateroom, 6.2 ft. headroom. Accommodations for six to eight. Sails in first class condition, full suit. Very complete outfit in every respect. Interior finish of mahogany. Most of equipment new last season. 12 H. P. Bridgeport motor, installed last year, giving speed of five to six miles. Fine bargain for quick sale. Henry J. Gielow, 50 Broadway, New York.

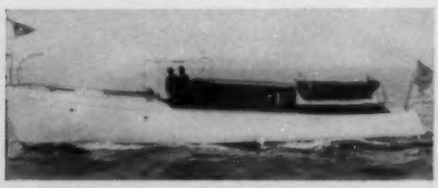
FOR SALE AND CHARTER.—An exceptionally desirable express steam yacht at a price way below real value.

I also have for sale all the better steam yachts, auxiliaries, gasolene cruisers, cruising schooners and yawls, racing sloops, etc., that are available for purchase. Write me your requirements. Frank Bowne Jones, Yacht Agent, 29 Broadway, New York.

FOR SALE.—45-ft. open gasolene motor boat, speed 20 to 21 miles per hour. 6-cylinder, 6 x 6-in. "Speedway" engine. Hull and machinery in first class condition. Price low. Gas Engine & Power Co., and Chas. L. Seabury & Co., Consolidated, Morris Heights, N. Y. City.

NO. 2309—FOR SALE.—Desirable cabin launch, 33 x 7 x 2.4 ft. Built 1903; oak, cedar and copper Saloon, 12 ft. long, 6.6 ft. headroom. Toilet. Extension berths accommodate six. Equipped with new 11 H. P. Essex motor, giving speed of eleven miles. Equipment includes cushions, lights, etc. In first class condition. Price low. Henry J. Gielow, 50 Broadway, New York.

SPECIAL.—Open gasolene launch, 25 ft. long, 6 ft. beam. Equipped with 2-cylinder, 4-cycle, 4½ x 5-in. "Speedway" gasolene engine. Hull ash and oak finished. Lockers under seats. Khaki spray awning. Cushions, steering wheel, brass rails, etc. First offer of $700 takes it. Call and see it. Gas Engine & Power Co., and Chas. L. Seabury & Co., Consolidated, Morris Heights, N. Y. City.



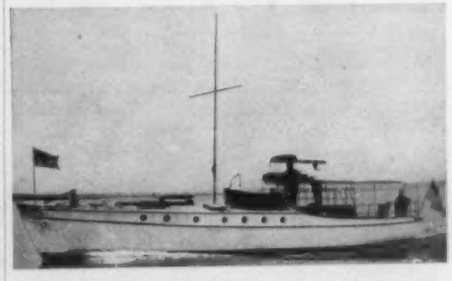
FOR SALE.—Powerful gasolene launch designed and built by Murray & Tregurtha, South Boston, in 1906. 45 ft. long, 9 ft. beam, and 3 ft. 4 ins. draft. Has 6 ft. 6 ins. headroom in cabin finished in rich mahogany. Two berths and toilet forward. 25 H. P. Murray & Tregurtha engine. Carries boat on davits. This launch is an ideal big yacht tender on account of her great towing power. Also a splendid boat for day sailing. Very easy to handle and has good speed. Apply to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—Auxiliary yawl Zig-Zag 37 ft. over all, 25 ft. w. l., 10 ft. beam, 2 ft. draft, centerboard, good design, built 1905, a well constructed cruiser, full equipment, furnished throughout weathered oak, folding lavatory, 3 H. P. motor, electric lights, storage battery, $850.00 this month. Edward C. Parker, 234 Fischer Avenue, Detroit, Mich.

NO. 1906—FOR SALE. Probably the finest power boat of her size. 44 ft. overall, 40.2 ft. waterline, 9.6 ft. beam and 3 ft. draught. Built last year by well known firm. Large saloon; accommodations for four. 6.1 ft. headroom. Finished in mahogany and butternut. Two toilets. 20 H. P. Murray & Tregurtha motor, giving speed of 10 miles. Very complete inventory, of the very best. Henry J. Gielow, 50 Broadway, New York.

CHARTER OR SALE.—76-ft. twin screw cruising motor yacht. Ideal boat for Southern waters. Sleep six in owner's party. Two brass beds in stateroom. Electric lights. Well found. Has two 6-cylinder "Speedway" engines. Can be run with three men. Inspection invited at works of builders. Gas Engine & Power Co., and Chas. L. Seabury & Co., Consolidated, Morris Heights, N. Y. City.

PROSPECTIVE buyers are invited to call at our works and inspect the second-hand steam yachts, motor boats, naphtha and alco-vapor launches for sale. Some excellent bargains among them. Gas Engine & Power Co., and Charles L. Seabury & Co., Consolidated, Morris Heights, New York City.



FOR SALE.—Handsome raised deck cruiser, 57 x 11.6 x 3.6 ft., designed and built by the Williams-Whittelsey Co., 1906. 25 H. P. Standard engine, control of which is handled from the steering position. Speed, 11 miles. Fully furnished. Electric light plant. Arrangement: Galley, engine room and crew's toilet forward; next aft, large saloon, containing two extension berths; next aft to starboard, lockers, to port, toilet; next aft, large stateroom, containing double and single berths. Boat will stand closest inspection for material, seaworthiness and workmanship of model. Now in commission. Full particulars Whittelsey & Whitaker, Naval Architects, 11 Broadway, New York City.

HIGHEST grade Morris 15 ft. canoe. 2 pair double blade paddles, 2 natural finish back rests. Outfit cost $50 this past summer and has been used twice. Will sell for $25 if taken at once. Splendid tender for small launch or may easily be rigged for sailing. Address BARGAIN, P. O. Box 1592 N.Y.City.

WANTED—Cruising power boat. In exchange for auxilliary schooner in first-class condition. Power boat to be less than 70 ft. long and 4 ft. draft, and must be over 50 ft. long. Will pay a difference in cash, if difference in value is in the power boat. Address P. O. Box 94, East End, Pittsburgh, Pa.

IS YOUR BOAT FOR SALE?

Advertise it in Yachting's Big March Number

REMEMBER

THAT the best craft are always offered in Yachting's "For Sale" column, and the prospective purchaser, who wants something GOOD always turns FIRST to YACHTING, to see what is in the market.

On these For Sale advertisements a special rate of $1.75 per inch is made, and when an advertisement occupies a space of two inches or more we will, without extra charge, make a cut from your photo of boat.

The various sizes of advertisements may be understood by referring to the following:

The advertisement of Capable, page 233, occupies one inch space, costs $1.75

The advertisement of No. 2309, page 234, occupies two inches space, costs 3.50

The advertisement of No. 1659, page 233, occupies three inches space, costs 5.25

The advertisement of Tams, Lemoine & Crane, page 233, occupies four inches space, costs $7.00

The advertisement of W. H. Frank, page 233, occupies six inches space, costs $10.50

Send in copy, photo and check, stamps, cash, or money order for amount of space you desire. The first advertisements received get the best position, so don't delay as the last advertisements for the **Big March For Sale Number** must reach us not later than **February Tenth.** Address

ADVERTISING DEPARTMENT YACHTING
20 VESEY STREET, NEW YORK

N. B.—One broker received 125 inquiries to his advertisement offering a few boats for sale in a recent number of YACHTING.

NAVAL ARCHITECTS AND YACHT BROKERS

A DIRECTORY of reliable Yacht and Ship Designers and Brokers.

FOR ADVERTISING RATES ADDRESS

YACHTING PUBLISHING COMPANY

20 Vesey Street, New York

MOTOR YACHTS LAUNCHES, KNOCKABOUTS HUNTING AND FISHING BOATS

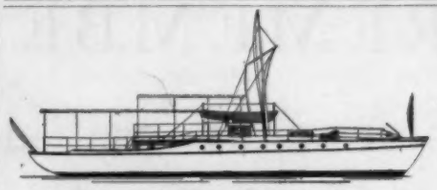
CRUISING BOATS designed and built to meet the requirements of owners for style, speed, comfort and thorough seaworthiness.

RACING BOATS furnished complete, teited and guaranteed to develop speeds of 30 knots and more per hour.

PROPELLERS designed and warranted to give the highest efficiency under stipulated conditions of speed, power, revolutions and displacement.

W. STARLING BURGESS CO., LTD., MARBLEHEAD

MORGAN BARNEY
NAVAL ARCHITECT
Personal Attention Given to the Design and Details of Cruising Yachts and Launches.
29 BROADWAY NEW YORK



60-Foot Raised Deck Motor Cruiser
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Naval Architects and Marine Engineers
Designers of Steam and Motor Yachts and Motor Boats of all Classes
Agents for Thornycroft Propellers
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All Type Yachts For Sale and Charter
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MANNING'S YACHT AGENCY Established 1873.
17 Battery Place, New York City
Yachts of Every Description for Sale and Charter
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All classes of yachts, vessels, and machinery designed and superintended during construction.
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ATKIN-WHEELER,
YACHT DESIGNERS AND BUILDERS.
HALESITE, (HUNTINGTON HARBOR,)
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FOR SALE
Complete sets of Castings with Forgings and Blueprints for Gasoline Marine Engines, 3 to 50 H. P., Opposed and Vertical.
COMET MOTOR WORKS
Madison and Canal Streets, Chicago, Ill.

What Speed Is She Making?
A Nicholson Speed Indicator tells you this instantly, conveniently, at any time.
NICHOLSON SHIP LOG CO.
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WILLIAM H. GRIFFIN
SAIL MAKER
Special attention given to Yacht Sails of all kinds, canvas work of every description. Estimates Cheerfully given
Office and Loft:
MARINE BASIN, HUBBARD STREET
Adjoining Ulmer Park, - - Brooklyn, N. Y.

Power in Every Spark

For ignition current on auto, boat or gas engine, no battery so powerful, compact and durable as

THE HUBLER-DAYTON STORAGE BATTERY

The latest triumph of the largest concern making exclusively ignition apparatus. We make the famous Apple Battery Charger, a dynamo for charging batteries right on your auto, boat or engine. Use this outfit and enjoy perfect ignition and lights. For complete information write

THE DAYTON ELECTRICAL MFG. CO., 99 St. Clair St., Dayton, O.

Don't miss
Henry Irving Dodge's Yachting Romance of the Sea, entitled "The Escape of Fleur de Lys" in the December
YACHTING.

In the Captain's Cabin

The Sun Never Sets on Yachting.

The editor of this magazine in writing one of our subscribers who had addressed us about something or other, mentioned the fact that YACHTING had subscribers in fourteen foreign countries. A member of the business staff noticed this and promptly took him to task. "We have double that number," he said, and to the incredulous editor he promptly proved his point by looking up our foreign subscription list. He found that he, too, was modest, and that YACHTING was really going to subscribers in thirty-three different countries outside of the United States, not counting our island and other possessions. Just a year ago, in this page, we were speaking of this point, and at that time enumerated twenty-four countries where YACHTING was being read—a gain of nine this year. Our friends in the happy sailing grounds of the Fiji Islands, Tasmania and other neighboring boroughs have wakened up and subscribed, thus saving the reputation of those places. We see that we have no subscribers in Bulgaria nor Bosnia nor Herzegovina, and as these governments have recently changed hands, we hope to report next year that our yachting neighbors there have seen the light.

YACHTING has subscribers in these places:

Alaska.	China.	Germany.	Porto Rico.
Argentine Rep.	Cuba.	Hawaii.	Russia.
Australia.	Denmark.	Holland.	Salvadore.
Austria.	Ecuador.	Italy.	Spain.
Belgium.	England.	Japan.	Sweden.
Brit. W. Indies.	Fiji Islands.	Mexico.	Switzerland.
Brazil.	Finland.	New Zealand.	Tasmania.
Canada.	France.	Philippines.	Turkey.
Cent. America.			

Why Not Build a Boat This Winter?

Some of our readers have a knack of handling tools. We know this, because, following the publication in our September number of the plans of a 16-foot auxiliary sloop, together with suggestions as to the ease with which she might be built in the home workshop, we received at least a dozen letters requesting fuller particulars as to her construction and cost. These we were glad to answer, and if we have not been grossly misinformed, the clatter of hammers and the rasp of saws are now heard in many an amateur's cellar or outbuilding as the work of constructing this sloop goes forward.

Well, for such as are not inclined toward windjammers, even with a kicker astern, we are glad to begin in this number (and conclude in December) full directions and plans for building a 13-foot power tender. Moderate size, yes; but remember that the cost, too, is moderate, and that, moreover, a tight little craft of this sort is one of the most useful boats either for fishing, short cruising runs, or for serving any of the multiform purposes of a yacht tender that ever was launched.

Now there is to be nothing theoretical nor speculative about this tender. She has been built from the very specifications which we are publishing and has proved in every way worthy.

So get your tools sharpened; clear out a suitable place for working and prepare to spend a winter no less pleasant than the summer of sailing has been.

Is Your Boat For Sale?

The fall has seemed a very good time to sell boats, and our subscribers seem to be in a receptive mood to buy. One yacht broker had nearly 125 inquiries for some boats he advertised in our September number. One of our readers who had his inquiries addressed in our care has already received at this writing a number for his motor boat advertised in the October YACHTING—a large cruising craft for which he asks a good round sum. This is a pretty good result in a time of the year considered to be an off season for the disposing of boats. It shows how active a lot of subscribers we have, and how keen they are on buying. All this is preliminary to suggesting your sending in this month an advertisement of your boat for sale for our spring number, which will specialize on boats for sale. We will give precedence to those that reach us early. The special advertising rate in this department is $1.75 an inch, one column width; two inches, $3.50; three inches, $5.25, and so on. This price includes the making of a half-tone cut for illustration from any photograph you may furnish. If you are in a hurry to dispose of your boat early this winter so you may build for next summer, advertise in the December issue, the last forms for which close November 12.

Yachting Prints Sent You on Approval.

We had hoped before this to have our Yachting Prints on sale in most of the best art stores throughout the country, but owing to some obstacles occasioned by the unreliability of our jobbers, this has not been accomplished. In another two or three months we expect that our expectations will be realized. In the meantime, we will send a full set of prints on approval, express prepaid, to any of our readers. You can then select, at your leisure, the prints you fancy; remit us for those you keep and return the balance express collect. This is an even better method than going to a store to make your selection, as you can examine the prints in your home and can determine those best suited for your walls. In ordering prints in this way, please advise us if you would like to see all six subjects (which are enumerated below and pictured on another page), and also which you desire them—in monotone or in color or both.

Copyright, 1908, by Yachting Publishing Co., N. Y.

THE GLOUCESTERMAN: ONE OF THE YACHTING PRINTS

These prints have been described in these pages before, and it is not necessary, therefore, to enter into an explanation of them. Sufficient to recall to your mind that the subjects are superbly reproduced in photogravure and photo gelatine, the former on India and Whatman paper, and the latter are mounted on double art mats. A coupon is attached below for your convenience in ordering these prints on approval.

YACHTING PUBLISHING CO.,
20 Vesey Street, N. Y.,

Please send me on approval, express prepaid, the following Yachting Art Prints. I agree to return promptly those I do not want, and remit you for those I keep:

A Good Slant of Wind. Clewed Up. The Gloucesterman.
The Night Patrol. The Trough of the Sea. The Moon Path.

Each $1.50. Hand Colored, $3.00.
(Cross out those not wanted.)

Name.....

Address.....

Have You Ever Visited Marblehead?

Copyrighted 1906 by A. W. Elson & Co., Boston

BESIDES being a great Mecca for yachtsmen, Marblehead is a town of much quaintness and historic interest. It has fascinated artists as the most picturesque town on our coast, but much as it has been sketched, it remained for a young American artist, Mr. Hornby, to do for Marblehead "what Whistler did for the Thames and Méryon for the Seine."

From year to year Mr. Hornby made one pencil sketch after another of everything that he saw in Marblehead that appealed to his artistic instincts as worth drawing, until he had secured over fifty large and small pencil drawings of the town and harbor.

The suggestion was made that these most admirable sketches should be presented to the public in some adequate way.

This has now come about in a beautifully made work in the form of an artist's sketch book. In the same spirit as Mr. Hornby approached the subject with his pencil, Mr. Sylvester Baxter has written an appreciative sketch of Marblehead to accompany the copper-plate photogravures of the drawings. Thirty-six of the best and most characteristic sketches are produced in such a manner that the prints are not to be distinguished even by an artist from the drawings themselves.

The whole is printed on Italian hand-made paper, made especially for the book.

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Contents—November, 1908

Cover Design: - - - - - - - - - - - - - Fred S. Cozzens
Frontispiece: Into the Fog Pall, Vim making a mile in 2.51 in Hudson River Regatta
Photograph by Edwin Levick

THE LIPTON CUP RACE FOR TWENTY-ONE FOOTERS J. M. HANDLEY 241
Photographs by R. H. Hall and others

THE NATIONAL MOTOR BOAT CARNIVAL - - - T. LOGAN SMITH 244
Photographs by Edwin Levick

THE CAPE MAY RACE FOR THE LIPTON CUP OF 1908 L. DE B. HANDLEY 246
Photographs by the Author

THE DEVELOPMENT OF THE POWER BOAT - - E. T. KEYSER 250
Illustrations by courtesy of Gas Engine and Power Company and Charles L. Seabury & Company, Consolidated and Electric Launch Company

THE MONTH IN YACHTING - - - - - - - - - - - - - 253
Photographs by Edwin Levick

BATTERY VERSUS MAGNETO IGNITION - - HERBERT L. TOWLE 256

SEARCHLIGHTS FOR MOTOR CRAFT - - - K. E. TREADWELL 257

THE POWER OF THE WIND. ISTALENA DOWN ON HER SAILING LINES - - - - - - - - - - - - - - - - - 260–261
Photograph by Edwin Levick

AROUND THE HORN—THE LOG OF A SECOND MATE T. JENKINS HAINS 262

THE WEBB ENDURANCE RACE FROM PEORIA TO HENRY
Photographs by the author REX D. FRAZIER 264

HOW TO BUILD A THIRTEEN-FOOT POWER TENDER—PART I
Illustrations by the author HOWARD A. PIKE 265

WITH OUR READERS - - - - - - - - - - - - - - 268

THE TURBINE YACHT VANADIS - - - - - - - - - - 269
Photographs by Edwin Levick

A GREAT SOUTH BAY CLASS P. SLOOP - - - - - - - - - 271

NINETY-FOOT CRUISER REOMAR - - - - - - - - - - 273

EDITORIAL - - - - - - - - - - - - - - - - 274

MOTOR BOAT SUPPLEMENT - - - - - - - - - 276 and 278

LAWRENCE PERRY, Editor

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November, 1908

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ROUNDING THE FIRST MARK. CHERRY CIRCLE IN THE LEAD, CLEVELAND NEXT.

The Lipton Cup Race for Twenty-One Footers

By J. M. HANDLEY

Photographs by R. H. Hall and Others

RACES for the Sir Thomas Lipton trophy of the Columbia Yacht Club, of Chicago, have usually developed some sensational feature that lifted them out of the ordinary. The series of 1908, which resulted in the trophy going to Chicago, proved no exception to this established precedent. First, the percentage system under which the races were sailed gave the cup to a boat that had not won a single contest, although it demonstrated that it was, to a certain degree, the best all-round boat in the record fleet of nine 21-footers that went to the starting line. Then one race had to be sailed over three times before a decision could be reached, and each race brought out a different winner, under totally different conditions of wind and sea. Furthermore, the series developed three distinct champions in the class—a heavy-weather boat, a drifting wonder and a light-air marvel. Columbia, belonging to Commodore McGuire, of the Columbia Yacht Club, clearly demonstrated her ability to outsail anything in the class in heavy going; Spray again showed wonderful ability in the light breezes that barely stirred the water, and Cleveland proved by far the most useful boat in a fair breeze. And yet Chicago, which did not win a single race, but showed consistently in all and every kind of sailing and carried off the highest average of points with two seconds and a fourth, won the coveted trophy emblematic of the interlake championship of the 21-foot cabin class.

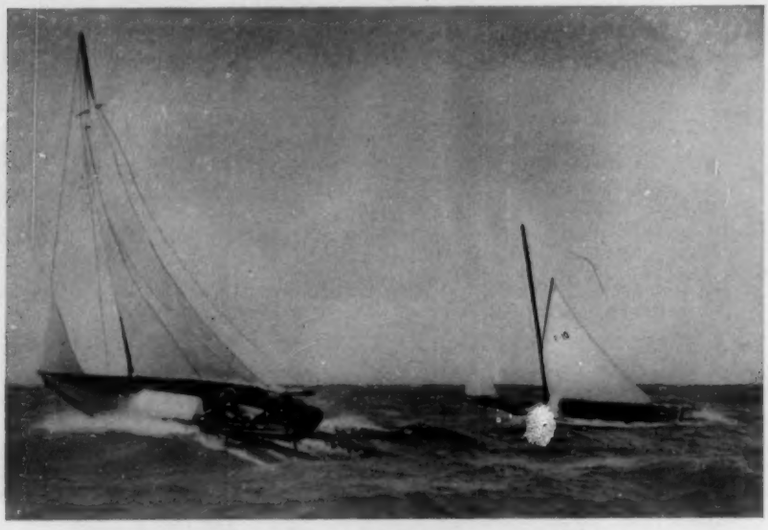
DOWN THE WIND ON THE LAST LEG OF THE RACE OF AUGUST 20. CHICAGO SLIGHTLY AHEAD OF SPRAY.

I. A. C., designed by Morgan Barney, was a disappointment in all but the lightest airs, and though she carried off the last race with plenty to spare, her actual sailing time was not equal to that of Cleveland, which crossed the line before gunfire and had to go back and cross again, so losing over ten minutes of valuable time, most of which she made up, but still not enough to put her in the running for the cup. In heavy airs and a smashing sea I. A. C. proved utterly unable to lug her canvas, probably because of the fact that, in order to bring her into the class restrictions, she had to be lightened of several hundred pounds of weight in her fin, which made her tender. Indeed, it was a question for a long time whether she would be eligible for the class at all; but she measured in by a fraction, all too slender for comfort.

First Race, Sailed Saturday, August 15.

The first day found a record fleet of pleasure craft out to see the finest and biggest of 21-footers that ever competed for the now historic Lipton trophy. Conditions were not favorable for a good race. A light breeze

from the east gave indications of petering out should any of the numerous rain squalls overhead break, and a heavy rolling sea—the remnant of a stiff southeaster of the day before—made an ugly cross-swell that threatened to interfere with the handling of the boats. As the long rollers came in athwart the racers,



CHICAGO AND CLEVELAND REEFED DOWN IN FIRST DAY'S RACE.

they slatted the wind out of the sails and spoiled many effective bits of clever stick work. For a while it looked as though the start might be badly interfered with by the huge fleet of sightseers; but by the time the preparatory gun sounded, and after some heroic work by the patrol boats, a sufficient maneuvring space was cleared and the work of getting over the line began in earnest. Billy Avery, who had made a big reputation as the skipper of Cherry Circle on the occasion of her victory the year before, showed that he had not forgotten the trick of getting away well, and put the shark-nosed, mahogany fin keel over the line first. He was followed, in close order, by Cleveland, Spray, Chicago, Columbia, I. A. C., Jackson Park and La Rita. The first leg of the triangle of two miles to the side proved a close-hauled reach with the wind on the port side, and Cherry Circle, footing fast and looking all over a winner, stood for the mark in the most impressive style. Cleveland held on gamely, and Spray worked into a good position, but failed to overhaul the two leaders. George Peare did some great work with La Rita, and brought her through the fleet in surprising fashion, so that at the turn he was third, behind Cherry Circle and Cleveland. Spray was close on top of him, and was followed by I. A. C., Columbia, Chicago, Jackson Park and Quien Sabe, which had come late to the starting line. Here Avery lost his race. The run to the second mark was another reach with started sheets, and the skipper of Cherry Circle took a course out into the lake, as though he were standing for Michigan City. His purpose could not be fathomed, and it was not until he saw the entire fleet, including the judges' boat, heading for a northerly point, that he brought his boat about and stood for the buoy marking the northerly apex of the triangle. By that time he was out of the hunt. Cleveland showed fine speed at reaching, and, with the favoring roll of the seas, steadily increased her lead, and rounded the second buoy well in the van. Chicago had also done well on the reach and had crept up into second position, passing La Rita II., Spray, I. A. C. and Columbia, and threatened the supremacy of Cleveland.

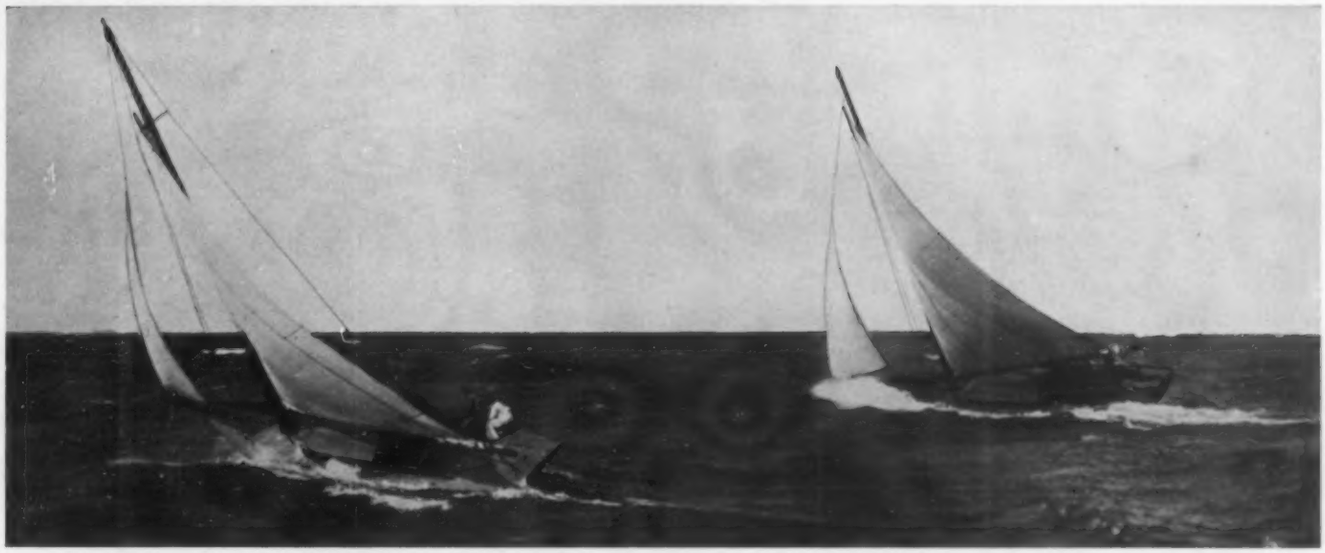
The third leg of the triangle proved a spinnaker run. Cleveland was first to break out her running canvas, and Skipper Barth's example was quickly followed on all the boats in turn. La Rita, which had proved a great boat in the run before the wind, here picked up a bit on Chicago, and the two came to the buoy at the finish of the first round close together, with Chicago nearest the mark and La Rita on the outside. I. A. C. was right behind them, and the three came to the mark so close together that it was evident fouls would occur. The judges kept a sharp lookout and saw La Rita swing in under Chicago's lee, and for a few seconds there was a mixup that threatened destruction; but after a bumping match, in which La Rita was the offender—though the indications were that Skipper Peare was not to blame—his mainsail swung La Rita's nose up, on getting a free puff from behind Chicago's spread of canvas, and she committed a technical foul, which did not affect the result of the race, and which was not recognized by the judges when protests were filed later. Cleveland meanwhile had found a fresher breeze, and was footing fast toward the first mark on the second round. Cuthbert brought Chicago through in good style, and set after the flying leader. Clyde Bailey did some good work here with I. A. C. and pushed the new Morgan Barney boat hard after the two leaders. La Rita dropped back at I. A. C.'s spurt, and the rest of the boats maintained their relative positions, Cherry Circle still hopelessly last.

At the second mark Bailey managed to push I. A. C. around ahead of Chicago by a narrow margin. Spray and Columbia came up fast, and I. A. C. looked so dangerous that Price went after Bailey, and soon the Spray, I. A. C. and Columbia were in as

LA RITA, IN THE FIRST RACE, SAILING ON HER LEE RAIL.

pretty a luffing match as you would care to see. It was folly on Bailey's part; but he realized it too late, and Chicago slipped to the finish line behind Cleveland, with I. A. C. only five seconds behind and La Rita fourth.

Following is the official record of the race, with the percentage



CLOSE HAULED IN A LUMPY SEA. QUIEN SABE TO WINDWARD OF JACKSON PARK.

allowed each boat according to the table averages under which the series was sailed:

	First Round.	Finish.	Per Cent.
Cleveland	3:14:34	4:09:05	100.0
Chicago	3:16:45	4:10:15	88.9
I. A. C.	3:16:46	4:10:20	77.8
La Rita II.	3:16:45	4:10:40	66.7
Spray	3:16:47	4:12:18	55.6
Columbia	3:18:15	4:12:15	44.4
Jackson Park	3:19:45	4:14:45	33.3
Quien Sabe	3:26:30	4:18:09	22.2
Cherry Circle	Not taken	4:19:09	11.1

Start, 2:15 P. M.

Second Race, Sailed Monday, August 17.

When the starting gun of the second race barked its signal, Avery shot Cherry Circle across the line first by a scant margin, with "Sport" Herrmann right after him, with Columbia, Chicago a shade behind, and the others well bunched, with the exception of La Rita II., which was still struggling with a refractory reef, going over the line with the crew busy at the reefing points and the peak scandalized. Chicago was first to split tacks and went over on the port, while the others held on the starboard tack on the three-mile-to-windward journey, the second race being a windward and return struggle, the course to be sailed over twice. Cherry Circle was early in trouble, and I. A. C. seemed quite unable to lug her mainsail with one reef in it. Cleveland was wallowing under the great press of her whole sail, and both these boats began to drop out of it fast. Spray was holding her own fairly well, and La Rita was working through the fleet in great shape when Chicago Light was neared. Jackson Park was another of the boats that seemed to revel in the heavy wind, and romped away at a great rate. Chicago, after standing on the port tack for a few hundred yards, came about on the starboard again, and it was seen that, while she was making good footing, she was not pointing nearly as high as Columbia and the McGuire challenger.

When the boats got behind the government breakwater and went about, Jackson Park was unable to cross Chicago's bows and Columbia had secured a handsome lead on the fleet. I. A. C., sailing on her beam-ends, was dropping steadily back, and Cherry Circle was wallowing in the going and not footing at all. La Rita kept on steadily, cutting down the lead of the leaders and working into a commanding position. At last Barth gave up all hope of lugging his whole mainsail, and, going about, stood on the port tack far out into the lake, while he put a tuck in his big sheet and substituted a No. 3 jib for the No. 2 he had been carrying. A long tack to the eastward and a short one to the north, then another to the eastward and short hitch, brought Columbia to the mark. Chicago was after her, however, and came around a scant two minutes behind. Spray was forty-five seconds behind Chicago, and Jackson Park was a good fourth. Cleveland, Cherry Circle and I. A. C. went around in the order named; and Quien Sabe, which carried away her bobstay, dropped out of the race and sailed for her mooring. Cleveland, Cherry Circle and I. A. C. held their relative positions.

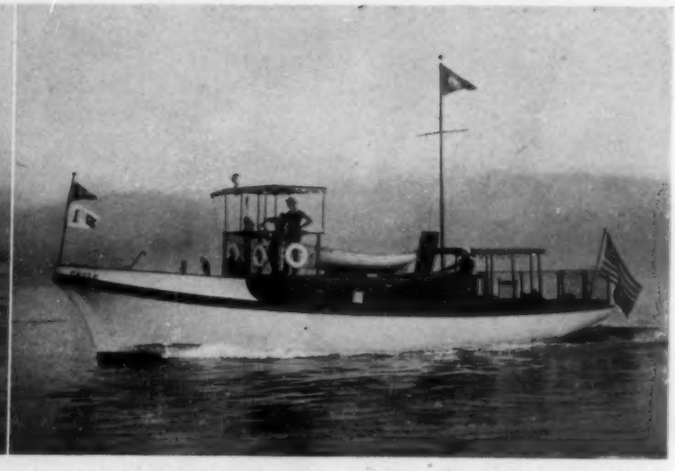
On the run down the wind the breeze softened considerably, and it was evident it was dropping fast. It was a surprise to the gallery that Cuthbert did not take advantage of the fact and shake out his reef on the run, where it would not delay him, instead of waiting until he had rounded the buoy. The delay lost him his position in the race, as La Rita and Spray both crept up and passed him. The thrash to windward saw Peare and Price in a pretty duel, fighting it out tack for tack. When they rounded the outer mark Spray was in second place and La Rita had gone into third position, both boats having gained on Columbia as well as Chicago, which was nearly 3 minutes behind Spray. Columbia held her lead all the way home, and slipped over the line winner by a minute and 23 seconds. On the run down the wind, La Rita passed Spray, and finished second. Spray was third, a minute and a half before Chicago, with Jackson Park fifth, Cleveland sixth, Cherry Circle seventh and I.A.C. eighth.

Here is the official record of the race from the timekeeper's card:

CHICAGO'S UNDERBODY. NOTE THE EXTREME FORWARD OVERHANG AND SHARP BILGES.

(Continued on page 280.)

RUNAWAY, A 50-FOOT CRUISER WITH A TURTLE DECK FORWARD AND A SQUARE-SIDED TRUNK AFT OF BRIDGE. HER FOUR-CYLINDER ENGINE WAS RATED AT 37.69 HP.



THE 50-FOOT EAGLE. HER ENGINE WAS RATED AT 67.01 HP. SHE FINISHED ON THE FIFTH AND SIXTH DAY'S CONTESTS IN 3.10.28 AND 3.09.08, CORRECTED TIME, RESPECTIVELY.

The National Motor Boat Carnival

By T. LOGAN SMITH

Photographs by Edwin Levick

THE National Motor Boat Carnival held on the Hudson River September 21 to 25, inclusive, under the auspices of the Colonial Yacht Club, of New York City, was certainly a success, and the regatta committee is to be congratulated upon the businesslike methods in which it was conducted.

In this series of events there were no "last-minute" notices, and no opportunity for any contestant to complain of lack of due notification. Nor was there lacking anything which would tend to the comfort and convenience of the contestants and their guests. Long before the races, notices of the events had been posted in various club-houses and mailed to motor boat owners. The entries, made well in advance, were tabulated in printed form, making the task of the contestants and the spectators to keep tab on the events a particularly easy one.

The races were called promptly, except when weather conditions absolutely forbade the strict adherence to schedule. The number of entries was particularly good, and the percentage of boats that actually started, particularly in the cruising classes, was more than encouraging.

The foresight of the National Association in having the regatta held where the start could be witnessed by thousands of spectators from the Riverside Drive is deserving of high commendation. And to the Colonial Yacht Club, who placed a club-house and grounds at the disposal of the contestants and their friends, a vote of thanks is due from every one who enjoyed the races there as a participant or a spectator.

Situated on a high bank between the railroad tracks and the river just north of 138th Street, the club-house offered an advantageous spot from which to view the start and finish. Along the wall which separated Riverside Drive from the tracks there were rows of stone benches, which served as a standing place for thousands of interested spectators who watched the start and finish of some of the best-contested events in the history of the motor boat.

Although there were six entries for the mile championship events scheduled to start at 2.30 P. M. on the first day of the regatta—Monday, September 21—but three of the speed boats started. These were E. J. Schroeder's Dixie II, J. H. Hoadley's Den and Geo. F. Baker Jr.'s Vim. Vision, owned by F. F. Goodman, had sunk during an attempt to tow around from Rockaway Point, and Bullet, owned by W. J. Taylor, and Chas. L. Seabury's Speedway 1920 did not cross the line.

ALABAMA, THE LARGEST CONTESTANT IN THE CARNIVAL EVENTS. SHE IS 69 FEET 6 INCHES OVER ALL, AND HAS ENGINES OF 47.9 HP.

JOKER, THE 36-FOOT OPEN BOAT, WITH A 17-HP. TWO-CYCLE MOTOR. SHE WAS PROTESTED ON ACCOUNT OF THE REMOVAL OF HER AWNING.

BETSY, A GOOD, WHOLESOME TYPE OF SINGLE-HANDED CRUISER. SHE HAS ENGINES RATED AT 10.68 HP. HER CORRECTED TIME OVER THE 60-MILE COURSE WAS 7.36.43.

SELMA, A HUNTING CABIN LAUNCH, WHICH MADE THE TRIP TO PEEKSKILL AND BACK IN 8.14.35, CORRECTED TIME. HER ENGINE WAS RATED AT 10.39 HP.

(UNOFFICIAL)

MILE SPEED TRIAL.—MONDAY, SEPTEMBER 21ST, 2.30 P. M.

Racing No.	Boat.	Owner.	Motor.	H. P.	First Trial. Against Tide.	First Trial. With Tide.	Second Trial. Against Tide.	Second Trial. With Tide.	Third Trial. Against Tide.	Third Trial. With Tide.	Average Time.
1	Dixie II	E. J. Schroeder	Crane & Whitman	200.	2.06⅘	2.04	2.10⅘	2.04	1.59⅘	1.54¼	2.03
3	Den	J. H. Hoadley	American and British	71.6	2.33⅘	2.26⅘	2.43⅘	2.31	2.31	2.24¼	2.32
4	Vim	G. F. Baker, Jr.	American and British	31.	3.	2.51	3.14	2.51	3.07	2.55	3

FREE FOR ALL.—TUESDAY, SEPTEMBER 22D, START 2.40 P. M.

DISTANCE, 3 MILES.

Racing No.	Boat.	Owner.	Motor.	H. P.	Start.	First Round.	Second Round.	Third Round.	Elapsed Time.
1	Dixie II	E. J. Schroeder	Crane & Whitman	200.	2.40.20	3.02.33	3.24.47	3.47.11	1.06.51
3	Den	J. H. Hoadley	American and British	71.6	2.40.23	3.09.42	3.42.15	4.14.22	1.33.59

LONG-DISTANCE CHAMPIONSHIP.—WEDNESDAY, SEPTEMBER 23D, START 10 A. M.

CRUISING CLASS—PEEKSKILL AND RETURN—DISTANCE, 60 STATUTE MILES.

Racing No.	Boat.	Owner.	Motor.	H. P.	L. O. A.	Rating.	Time Allowance.	Start.	Finish.	Elapsed Time.	Corrected Time.
J1	Wanderlust	E. J. Steiner		67.01	.. ..	56.88	4.52	.....	4.20.38	6.10.38	6.03.04
2	Eagle	A. I. Piercy	Jersey City Vapor	67.01	50′ ..	52.72	23.01	.....	8.29.19	Disabled.	
5	Joker	H. A. Johnson	Fairbanks	17.3	39′ 4″	52.60	23.35	.....	3.56.37	5.46.37	5.20.20*
8	Irene II	S. W. Granbery		28.27	40′ ..	41.4	1.30.35	.....	5.09.05	6.59.05	5.25.48
9	Erone	Samuel Cochran	Craig	7.	35′ 6″	53.66	2.42.56	.....	7.17.55	9.07.55	6.22.17
11	Alabama	J. H. Hoadley	American and British	47.5	60′ 0″	58.82	.....	.....	3.05.14	4.55.14	4.55.14
12	Aquilla	R. C. Annett	Chase	18.85	40′ ..	54.76	13.46	.....	4.59.59	6.49.59	6.33.31
14	Barbara	W. M. Duncan	Ralaco	16.75	35′ ..	40.93	1.34.10	.....	5.27.50	7.17.50	5.41.07
15	Elsie	St. G. Barber	Smally	9.36	.. ..	40.45	1.38.01	.....	6.55.43	8.45.43	7.05.00
16	Betsy	B. C. Gould	Buffalo	10.68	32′ ..	38.76	1.51.54	.....	7.41.19	9.31.19	7.36.43
17	Wamego	M. P. Gould	Lamb	21.65	31′ 9″	51.60	28.20	.....	5.13.02	7.03.02	6.32.00
18	Runaway	L. Arnson	Seitz	37.69	.. ..	58.12	.....	.....	4.42.30	6.32.30	6.29.48
19	Mingo	F. H. Lenhart	Lamb	43.30	.. ..	55.76	9.32	.....	5.27.40	7.17.40	7.05.26
22	Selma	David Crow	Toquet	10.39	.. ..	37.46	2.03.34	.....	8.29.51	10.18.51	8.14.35
23	Rose	H. Schack	Ferro	11.70	.. ..	38.70	1.52.24	.....	7.18.05	8.08.05	6.12.59
25	Ida F. II	F. D. Archbald	Merchant	.....	.. ..	52.20	25.27	.....	5.27.52	7.17.52	6.49.43
26	Mary M	Wm. Murphy		8.75	25′ 6″	37.89	1.59.31	.....	8.17.25	10.07.25	8.05.12

* Protested.

RACING CLASS—POUGHKEEPSIE AND RETURN—DISTANCE, 140 STATUTE MILES.

Racing No.	Boat.	Owner.	Motor.	H. P.	L. O. A.	Rating.	Time Allowance.	Start.	Finish.	Elapsed Time.	Corrected Time.
H1	Elco	H. R. Sutphen	Peerless	51.33	32′ ..	77.	1.11.27	11.04.15	5.17.51	6.13.36	5.02.09
2	Artful	H. Coons	Ferro	17.3	22′ 2″	58.8	3.13.32	11.00.15	6.47.16	7.47.01	4.33.29
4	Mercury	W. J. Brainard	Mercury	26.50	28′ 4″	81.87	.....	11.01.00	Disabled.		
6	Macon	F. H. Tucker, Jr.	Watertown	28.8	24′ 10″	67.3	2.08.18	11.00.28	6.23.12	7.22.44	5.14.26
7	Vim	Geo. F. Baker, Jr.	American and British	31.08	24′ 11″	68.29	2.01.45	11.00.13	4.49.57	5.49.44	3.47.59
10	Speedway	C. L. Seabury	Speedway	84.82	.....	94.	.....	11.00.07	5.22.23	6.22.16	6.22.16

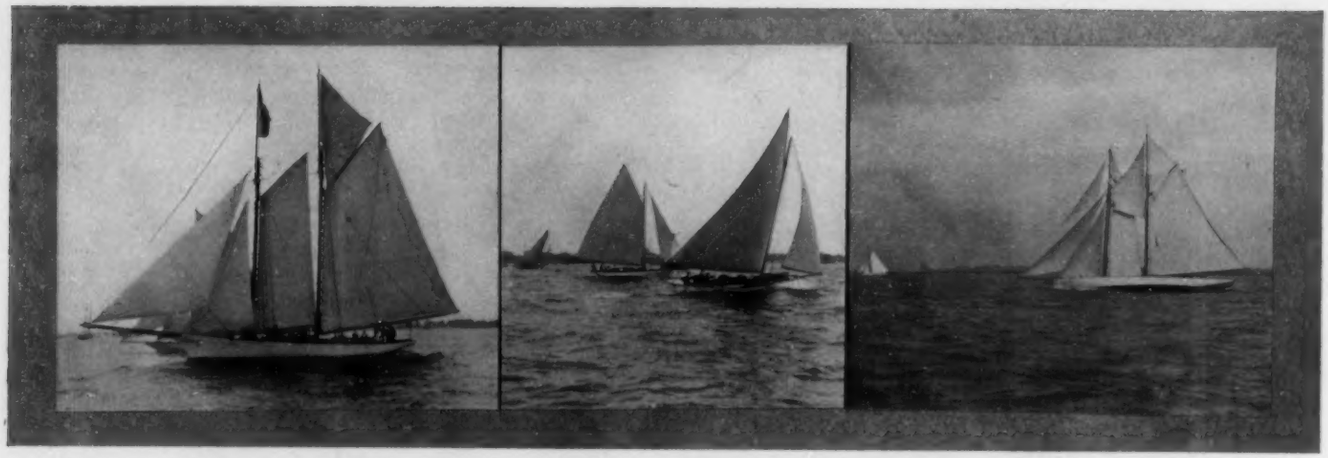
SERIES RACES—SEPTEMBER 24TH, 25TH, 26TH.

Class.	Distance.	Racing No.	Boat.	Owner.	Motor.	H. P.	Rating.	Time Allowance.
Motor yacht over 60 feet	20 miles	D3	Alabama	J. H. Hoadley	American and British	47.43	58.82	.....
Cabin boats over 40 feet, under 60 feet	20 miles	E1	Eagle	A. I. Piercy	Jersey City Vapor	67.01	50.88	.....
Cabin boats 40 feet and under	20 miles	F4	Betsy	B. C. Gould	Buffalo	10.68	38.76	0.32.05
		F5	Wamego	M. P. Gould	Lamb	21.65	51.60	.....
		F6	Selma	D. Crow	Toquet	10.39	37.46	0.36.34
Open launches	20 miles	G1	Herby	A. Simpson	Hicks	13.	41.76	0.24.41
		G3	Angir	H. Blosey	Lackawanna	6.57	39.17	0.32.34
		H5	Joker	H. A. Johnson	Fairbanks	17.3	52.60	.....
High speed over 40 feet	30 miles	G2	Speedway, 1920	C. L. Seabury	Speedway	84.82	94.03	.....
High speed 33 feet and under	30 miles	A1	Echo	H. R. Sutphen	Peerless	51.33	77.	0.15.42
		A2	Artful	H. Coons	Ferro	17.3	58.8	0.45.51
		A4	Mercury	W. J. Brainard	Mercury	26.50	81.87	0.09.55
		A5	Scioto	G. C. Sutton	Scripps	43.18	74.1	0.19.31
		A6	Macon	F. H. Tucker, Jr.	Watertown	28.8	67.3	0.29.44
		A7	Den	J. H. Hoadley	American and British	71.6	91.8	.....
		A8	Vim	Geo. F. Baker, Jr.	American and British	31.8	68.29	0.28.08
12 meter	30 miles	C1	Dixie II	E. J. Schroeder	Crane & Whitman	200	.....	.....

Boat.	September 24th. Start.	Elapsed Time.	Corrected Time.	Points.	September 25th. Start.	Elapsed Time.	Corrected Time.	Points.	September 26th. Start.	Elapsed Time.	Corrected Time.	Points.	Total Points.
Alabama	3.10.00	1.59.48	1.59.48	1	2.55.00	1.59.47	1.59.47	1	2.55.00	2.01.20	2.01.20	1	3
Eagle	.....	.....	.....	..	2.50.00	3.10.28	3.10.28	1	2.50.00	3.09.08	3.09.08	1	...
Betsy	3.00.00	3.29.14	2.57.09	2	2.45.00	3.15.30	2.43.25	2	2.45.00	3.23.05	2.51.00	2	6
Wamego	.....	2.52.30	2.52.30	3	.....	3.42.18	3.42.18	3	.....	3.54.02	2.54.02	3	9
Selma	.....	3.35.05	2.58.31	1	.....	.....	.....	..	.....	.....	.....	..	1
Herby	2.55.00	3.20.25	2.55.44	2	2.40.00	3.03.20	2.38.39	2	2.40.00	3.07.57	2.43.16	2	6
Angie	.....	.....	.....	..	.....	3.28.03	2.55.29	1	.....	3.27.35	2.55.01	1	2
Joker	.....	2.34.55	2.34.55	3	.....	3.30.23	2.20.23	3	.....	2.23.33	2.23.33	3	9
Speedway, 1920	3.15.00	1.52.17	1.52.17	1	3.00.00	1.45.41	1.45.41	1	3.00.10	1.50.37	1.50.37	1	3
Elco	3.25.00	1.43.11	1.27.29	5	3.10.00	1.40.36	1.24.54	5	3.10.00	1.37.56	1.22.14	6	16
Artful	.....	2.27.25	1.41.34	4	.....	.....	.....	..	.....	Disabled	.....	..	4
Mercury	1.00.00	.....	.....	..	.....	2.31.00	2.21.14	3	.....	.....	.....	..	3
Scioto	.....	2.20.07	2.00.36	3	.....	Disabled	.....	..	.....	Disabled	.....	..	3
Macon	.....	1.55.06	1.25.22	6	.....	1.50.52	1.31.08	6	.....	1.53.25	1.33.41	5	7
Den	.....	Disabled	.....	..	.....	1.26.36	1.26.36	4	.....	Disabled	.....	..	4
Vim	.....	1.38.18	1.10.10	7	.....	1.34.30	1.06.22	7	.....	1.38.18	1.10.10	7	21
Dixie II	3.15.18	1.07.55	1.07.55	1	3.00.06	1.05.40	1.05.40	1	3.00.10	1.05.37	1.05.37	1	3

On Tuesday, September 22, in the free-for-all American championship event, a distance of 30 nautical miles, there were entered Dixie II, Vision, Mercury, Den and Vim. Of these, Dixie II and

(Continued on page 284.)



FREDERIC THOMPSON'S SCHOONER SHAMROCK, WINNER OF THE CAPE MAY RACE. SAILED BY CHARLES BARR, SHE MADE THE COURSE OF 325 KNOTS IN 54 HOURS 57 MINUTES AND 30 SECONDS.

MIMOSA III. SHE WON SECOND PRIZE, AND WOULD HAVE TAKEN FIRST PRIZE HAD SHE NOT BEEN BECALMED AT FINISH. TO WINDWARD IS BUTTERFLY.

TAMMANY, W. C. TOWEN'S SCHOONER, WHICH WON THIRD PRIZE. COMMODORE TOWEN WAS AT THE STICK OF THIS BOAT, AND NAVIGATED HER MOST CREDITABLY.

The Cape May Race for the Lipton Cup of 1908

By L. De B. HANDLEY

Photographs by the Author

THE history of yachting probably contains no more interesting and thrilling chapter than that in which is recorded the eventful Brooklyn Yacht Club's Cape May Race of 1908 for the Lipton Cup. Of the nineteen boats that started, nine were disabled and withdrew before half the course had been covered, while every one of the others met with experiences that tell more like the adventures of fishing schooners off the Banks than of yachts in a regatta.

It was a splendid fleet that anchored off Bensonhurst on July 3 in anticipation of the race; a fleet in which almost every type and size of boat was represented. Big cruising schooners like the Shamrock, Zuhrah, Eclipse, Tammany and Uncas towered above tiny craft like the Burgess 22-footer Mopsa, and the out-and-out racer Mimosa III. The champion 40-footer Gardenia lay among older sloops like the Vigil, the Zinita and the Ondawa. A handful of well-known yawls, including the Hyperion, Lila, Tamerlane and Sakana, bobbed clannishly together, and one remarked at once the odd lines of the Butterfly and Marchioness, big cruising craft of the knockabout model that lay beside them.

The course mapped out for the race measured 325 nautical miles. The start and finish line was off the Brooklyn Yacht Club, and the marks which the racers had to round in the order mentioned were the following: Southwest Spit buoys, Scotland, Fire Island and Northeast End lightships (the latter off Cape May) and then back over the same route.

As early as 9 o'clock, on the morning of July 4, the yachts began to slip their moorings to head for the line, and by 10 o'clock the waters around the committee boat presented the aspect of a great jungle of white sails crossing and mingling in pretty confusion. To the contesting yachts was added a large contingent of boats carrying spectators, and one regrets to have to state that they were none too careful about not interfering with the racers.

When the starting signal was given at 10:25 o'clock and everyone converged for the mark there was a scene seldom witnessed in a regatta. The boats came down packed so closely that there was hardly a chance to maneuvre as, rail to rail, they crept on the line. People have criticised Captain Barr for bumping some of the boats having right of way over Shamrock, and the fact is not surprising, because he has played the trick before; but in this instance it was probably very lucky he did not attempt to go about, for an 80-foot schooner is no toy to be spun around carelessly in the midst of such a fleet, and had Barr given way it is likely that some of the smaller boats would have become kindling wood. How accidents were avoided it was hard to understand. Several very close shaves were witnessed. In one instance, particularly, only the presence of mind of two corinthians saved what might have been an ugly mess. In rounding the stern of the Laska, who marked one end of the starting line, the Eclipse raked the afterdeck of the Zuhrah with her bowsprit, and but for the immediate action of Mr. Doscher's crew in slipping down the backstay there must have been a terrible mix-up.

Three boats led the rest of the fleet over the line, almost neck to neck—the Mimosa III, Little Hope and Hyperion. To the former goes the credit of getting the best start; she not only led but had the windward position as well.

In the 8-knot breeze that was blowing from the southeast it was a windward beat to the first mark, and the boats went over on the port tack, the large ones soon overhauling the diminutive leaders. The sloop Gardenia outfooted them all on this leg and rounded Southwest Spit in the lead at 11:31, C. Oliver Iselin's Butterfly coming next 6 minutes later, and then Fred Thompson's schooner Shamrock at 11:38.

The wind continued to head the boats on the leg to Scotland Light and freshened considerably. The barometer had been falling for some time and black clouds had been gathering at the horizon. As the boats passed Sandy Hook the sky began to grow dark, then ugly puffs shot over the leaden water, lifting the spray off the white caps, and soon a fierce squall broke over the fleet. It was accompanied by torrents of rain, loud thunder and plenty of lightning, but it lasted only a short while, leaving behind it a grey sky and a fresh wind.

Good time was made to Scotland Light. Gardenia held her position and rounded, a good first, at 12:40.15, still 6 minutes ahead of her nearest rival; then freeing sheets to an easy reach, she set

A RAPFUL ON ZUHRAH.
DOUSING THE JIB IN A JUMPING SEAWAY.
UP WITH THE TOPSAIL.
WHEN SAILS ARE FULL.

her course for Fire Island Lightship. At 12:46:30 Shamrock swung after her, followed closely by Marchioness, who had passed fifteen boats and was steadily working to the front.

On the reach to Fire Island Light the increasing wind and the heavy sea began to tell on the boats, and the more powerful ones gained on the others. It was during this leg that the sloop Vigil lost her jib, and after her crew had made every effort to repair the damage she was forced to turn back.

Shamrock had assumed the lead by the time the lightship was reached and now had Gardenia at her quarter. Tammany, Uncas, Marchioness, Eclipse, Zuhrah and Little Hope were close on. Then came Mimosa and Butterfly, fighting it out between them, and the others followed in long procession.

Beyond Fire Island Light it was a beat to windward for the next mark, Northeast End Lightship, and with the breeze blowing a small gale and the waves running high, the boats ran into as bad conditions as are ever the lot of most racing craft. Many prudently shortened canvas at once and so eased their going, but others drove with full sail into the teeth of the wind and took their chances.

All afternoon the fleet thrashed back and forth into the rising sea, spreading further and further apart as the hours wore on. The wind increased steadily until decks were awash and the boats dove into the huge waves, throwing on high, great sheets of spray and broken water. Even such staunch ships as the Shamrock, the Eclipse and the Zuhrah found the going heavy and suffered minor mishaps, parting halyards, sheets, and splitting sails, and it was a wonder that some of the smaller boats lived to tell the tale.

As already said, many of them were disabled and had to turn homeward. First it was the Haviland brothers' yawl Sakana, who lost jibstay and jib, an accident that threatened an ugly wreck; but luckily they were able to patch things up sufficiently to make port under shortened canvas without suffering a breakdown. Next it was the Ondawa, who not only blew out her jib, but shipped so much water that the crew was kept steadily at the pump until smooth water was reached. Then the Zinita's mainsail ripped from gaff to boom.

Meanwhile, Robert Bacon's Tamerlane had put back because of injury to one of her crew, and the Keego II had limped home, crippled by the loss of her rudder. This left but thirteen of the nineteen starters, and the little Mopsa must have been the thirteenth, and so brought bad luck upon herself. Ever since the wind had put her down on her beam, her topsides, opened by the heat of many suns, had begun to leak and her cabin to fill. But Walter Sullivan has seen too much foul weather to let such a trifle bother him and he simply manned the pump and kept on. Fate was against him, though. Of a sudden the pump handle snapped off and there was no way of repairing it—the men were helpless. Still, Sullivan refused to consider himself beaten. Equipping his crew with pails and buckets he ordered them to bail, hoping that wind and sea would moderate and allow him to finish. But it was no use. The waves grew bigger and the wind stronger, and finally even the desperate efforts of the bailers could not keep the water from rising.

"I'm afraid we can't do it, boys," the plucky skipper finally said; "it's a question whether we can make port even now. Stand by to tack ship, there. Ready, about!" And the victor of so many good races turned disconsolately homeward.

All the way they fought the incoming water with aching backs and sweating brows, and then, broken and exhausted, they reached shelter just in the nick of time.

Toward evening a vapory mist fell over the fleet. Then darkness closed in. It was an ugly night, and to the racers the world became a fathomless pit of inky space, through which the howl of the wind and the roar of the sea were the only sounds to be heard. The boats' headsails were hardly visible from the stern

HOUSING THE SPLIT JIB TOPSAIL.
THE POST OF DANGER.
BOWSPRIT SPEARING A WAVE.
SHAMROCK DIVING INTO A SEA.

and the crazed craft ploughed madly on, meeting the huge waves with terrific impact as the green water flew up and then, whipped back by the gale, crashed over the crews that stood in oilskins on after deck or cockpit, clinging to the rigging.

It was hard going for the big boats, but it was fiendish for the small ones. Yet, through the worst part of the storm, that wonderful little Herreshoff creation, the Mimosa III, was driven with full sail and came out safely. Nothing seemed able to stop her. Smothered under the waves that smashed over her without interruption; keeled over so that the men stood knee deep in water; tossing and pitching until it seemed as if the rigging could not possibly stand the strain much longer, she kept on, always boring, always advancing. Now and then, if a particularly big wave smote her, she would check a moment, shivering under the cruel force of the blow, but the next a slight touch of the tiller got her moving again, and with renewed determination, a bone hard in her teeth, she plunged on into the night. Hers was a record to be proud of, an almost miraculous performance.

The happenings of that night would fill books with interesting experiences. None went scot free and there was hard work for the crews the night through. Aboard the big boats, professionals and corinthians were on deck until morning, the services of both watches often being necessary. When the wind blows hard and the sea runs high, it takes a big crew to handle those enormous sails properly.

Late at night the wind began to moderate; but there was plenty of it at that, and the rolling sea did not go down very fast. At daylight the leading boats were off Seaside Park, some well inshore, others a good way out, but so scattered was the fleet that it was impossible to make an estimate of the actual positions.

All day Sunday the yachts beat into a spanking breeze that seemed to spread in every direction. Those that kept along the beach did better than the others, but this was probably because they found smoother water.

The day was uneventful. The storm had blown itself out, and in the moderate weather that followed only slight accidents of no material consequence occurred, if one except the Butterfly's loss overboard of her jib, through a parted halyard. This occurred about 6 o'clock in the evening. Later, while trying to make Northeast End Light under staysail, the saddle split and the eyes of the rigging came tumbling down, but "Tom" Day, who was the boat's navigator, decided to keep on, anyway.

It was night before the first boat, the Shamrock, rounded the light and, breaking out spinnaker, set her course for Fire Island Lightship and home. Gardenia was second boat around, then came the Tammany, and soon after the Mimosa, whose great work had placed her among the leaders and ahead of boats many times her size. It is wonderful to think of a racer built and rigged for the sheltered waters of Long Island Sound showing her heels to world-renowned, ocean-going yachts and standing such terrific weather without a strand parting or giving. After the storm had passed not a trace did she show of the terrible ordeal she had gone through. Yachtsmen had predicted a horrible fate for her. She was to open up and leak like a sieve if the sea was at all lumpy, and then fill up and sink before anyone could give her crew assistance. As a matter of fact she proved as tight as a drum, and all the water she yielded to the pump was two scant pailfuls, which, by the way, might well have leaked in through the mast hole or been carried in through the companionway when the men went below in their dripping oilskins.

On the return trip some odd things were witnessed. Although a fair wind, light, but true, was blowing, and most of the boats laid a straight line for Fire Island Light, with spinnakers set, some of them deliberately abandoned their course, either to go out to sea or to head westward and run in under the shore. Why they should do this is not quite clear. One newspaper credits "Tom" Day, who was among those to choose the beach route, with saying that he did so to make his ballooner draw. As the boats holding for Fire Island carried spinnakers on the starboard side, and he must have held the port tack to go as he did, that hardly explains things. Nor can one believe that such excellent navigators as were on some of the diverging boats would go hunting for wind under existing conditions. With a rising barometer, after the weather that had been experienced, the probabilities were all in favor of southerly breezes, and the only rational course was the straight one.

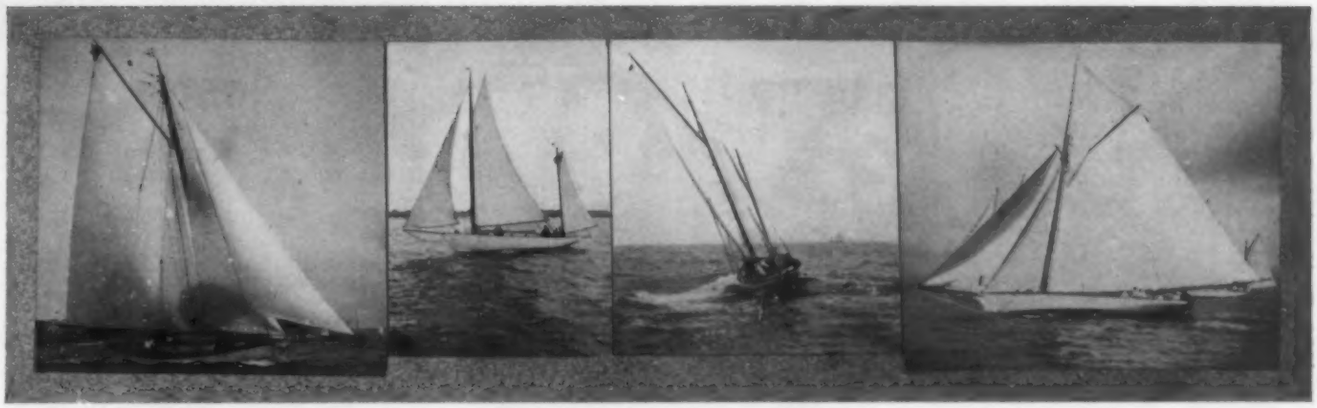
As it was, the wind seekers fared badly. While Mr. Day had gone below to take some much-needed rest, his crew ran the Butterfly aground on South Brigantine Shoal, and she brought up so hard that every effort to dislodge her failed. The fog was thick at the time, but the sea had calmed down and only a rolling swell was running, so that there was no actual danger. The grounding happened at dawn, and a couple of hours later the lifesaving crew went out to the assistance of the stranded boat. Some tall maneuvreing was necessary to get her off and it was 8 o'clock before she was finally floated.

ZUHRAH SLIDING OVER THE TOP OF A LONG, HIGH WAVE. SHE MADE EXCELLENT WEATHER.

THE CORINTHIAN CREW OF ZUHRAH FROM THE MASTHEAD. AN UNUSUAL PHOTOGRAPH.

WHEN THE MAIN SHEET PARTED. A PREVENTER HAS BEEN PASSED AROUND IT.

THE WAVES WERE AT TIMES 20 FEET HIGH AND SMASHED ON DECK WITH TERRIFIC FORCE.



SLOOP MOPSA, THE SMALLEST BOAT IN THE RACE. SHE SPRANG ALEAK BEFORE THE CONTEST WAS WELL UNDER WAY. SHE RETURNED TO PORT WITHOUT DIFFICULTY AND WILL BE SEEN IN NEXT SEASON'S RACES.

THE BERMUDA RACER, TAMERLANE. ONE OF HER CREW WAS INJURED, AND SHE ACCORDINGLY WITHDREW FROM THE CAPE MAY RACE.

ANOTHER BERMUDA RACER, THE YAWL LILA. SHE WEATHERED THE STRENUOUS COURSE NICELY, BUT DID NOT FOOT SWIFTLY ENOUGH TO FIGURE IN THE CONTEST.

THE 33-FOOT ONDAWA. WHEN HER HEAD SAILS WERE BLOWN AWAY IN A GALE, SHE PUT BACK FOR PORT. THIS SLOOP HAS LONG BEEN AN IMPORTANT FACTOR IN NEW YORK BAY REGATTAS. SHE IS HARDLY QUALIFIED FOR DEEP-SEA THRESHES.

The Gardenia, which took the opposite route, made Moriches, instead of the Fire Island Lightship, through going eastward, and by the time she had found her course again she was hopelessly out of the running.

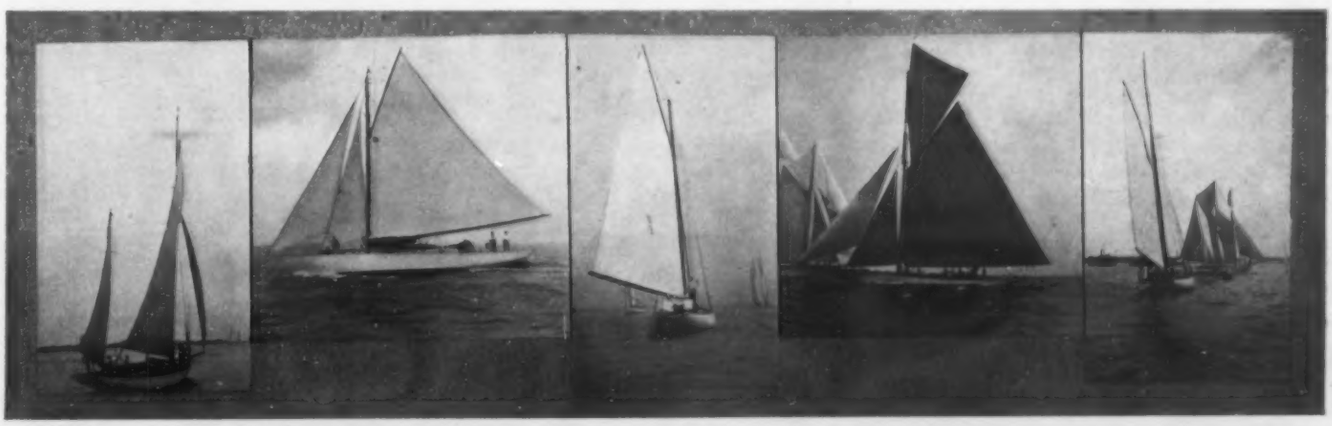
The bulk of the fleet had a steady run before the wind, with a comfortable breeze, to the lightship. It was a lazy day. After light sails had been set there was not a thing to do and most of the tired men slept the day out, though phonographs found their way on deck on some of the boats and impromptu concerts were held.

Shamrock was again first to clear Fire Island Light, and, carrying a nice breeze, she reached, close-hauled, to Scotland Light, freed sheets for Southwest Spit and, gibing around, ran home under spinnaker, crossing the finish line at 5:27:30 P. M. on Monday, having employed 54 hours 57 minutes and 30 seconds to complete the 325-knot course.

At Fire Island the Tammany, Marchioness, Eclipse and Mimosa III came around in the Shamrock's wake in the order named. The Mimosa was only about 6 hours behind Mr. Thompson's schooner, and in the light breeze that was blowing it didn't seem as if the latter could possibly make up the 3 hours she must still gain on her small rival to beat her on corrected time.

Yacht racing is an uncertain game, though, and a few hours of bad luck were destined to rob Mr. Wainwright of the fruit of two days of wonderfully fine and fearless sailing. As the Mimosa crept up the bay the wind grew lighter and lighter, and before she had rounded Southwest Spit it had fallen out completely. Then the tide, which had helped the leaders over, turned against her and fate held her until morning. When fitful breaths from the south finally gave her enough headway to take her across the line, her chance was gone, the time so bravely and bitterly fought for had been eaten up by hours of galling and helpless calm.

To Shamrock goes the prize, to Mimosa III the palm of victory. She proved speedy, staunch, and seaworthy beyond all of her splendid rivals in weather that was theirs and not hers, and her corinthian crew, Stuyvesant Wainwright, George Granberry and Walter Bieling, deserve great praise for the able and fearless way in which they handled her. Not a mistake did they make, and it was due principally to their clever work that Mimosa was driven without mishap through conditions that no one believed she could stand. Commodore W. C. Towen's schooner Tammany was awarded third prize on corrected time.



YAWL HYPERION WORKING UP TO THE LINE. SHE WAS ONE OF THE FIRST TO CROSS, AND FINISHED THE RACE IN GOOD STYLE.

MARCHIONESS, HERRESHOFFS' LATEST CREATION IN THE WAY OF OCEAN RACERS. SHE RAN AGROUND IN THE CAPE MAY RACE, AND THEREFORE DID NOT FIGURE IN THE FINISH.

MIMOSA III. SAILED BY STUYVESANT WAINWRIGHT, THIS SLOOP WAS AT ALL TIMES WELL TO THE FORE.

GARDENIA. SHE SAILED A BEAUTIFUL RACE TO THE NORTHEAST LIGHTSHIP AND THEN, FOR SOME UNEXPLAINED REASON, SAILED 40 MILES OUT OF HER COURSE.

SHAMROCK, WITH THE NEW YORK YACHT CLUB SCHOONER ECLIPSE SHOWING A BROADSIDE VIEW IN THE DISTANCE.

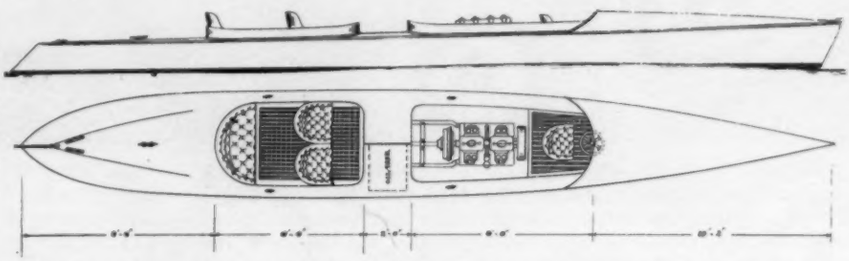
The Development of the Power Boat

By E. T. KEYSER

Illustrations by Courtesy Gas Engine & Power Company, Charles L. Seabury, Consolidated, and the Electric Launch Company

IT was not so many years ago that a power-boat speed contest would have relied for its entries on the fast runabout type — the automobile boat — as we used to call it.

This craft — originally designed for pleasure purposes for those who wanted to cover as much ground, or rather as much water, as they could in an afternoon's run—were, until a few seasons ago, *the* type of fast motor craft. To-day the situation is vastly different. The power racer is as much a specialized type as the racing thoroughbred, and, for most purposes other than speed, is about as unpractical.



FIAT I, BUILT IN 1903. SHE MADE 18 MILES PER HOUR AND WAS CONSIDERED A WONDER. HER DIMENSIONS WERE 35 FEET BY 4 FEET 6 INCHES.

We are, it is true, building our racing craft rather more staunchly than we once did. This is a step in the right direction. As to what a high-power racer of to-day can stand in the way of hard knocks is demonstrated by a snap-shot photograph in the possession of the skipper of Kittrois, which shows the bow of the speed craft penetrating the side of a hunting cabin cruiser, only being brought up, at that, by the planking on the far side of the boat. This, too, without damage to the speed craft beyond injuring her brass stem piece.

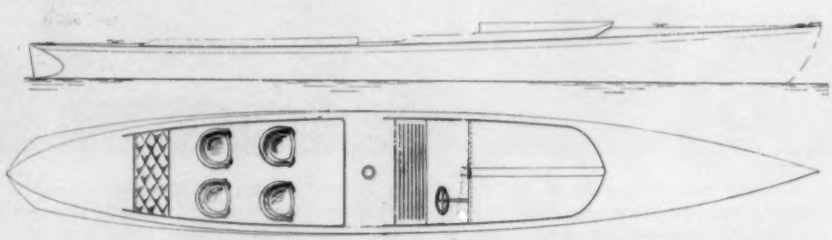
For speed, and speed only, we have realized the fact that we must sacrifice comfort, quietness, and, to a large degree, seaworthy qualities; but you cannot get everything in one craft. That we *can* get the speed, is demonstrated by Dixie II.'s marvelous performances.

On the other hand, if, as one of the most prominent and successful designers of racing craft has suggested, the length is reduced to 30 feet, it will be possible to build, for a fairly moderate sum, boats which will give us a speed of from 32 to 34 miles per hour, thereby helping us to get closer year by year to the solution of the problem which really is not, after all, the proving that larger boats and larger engines will give us increased speed—we know that already—but to discover what combination of lines, power and model of engine, and what in the way of propellor wheels will give us the best results when applied to a craft of certain restricted dimensions.

A 30-foot racing class would appeal to more prospective contestants not only from the fact of lower initial cost, but that, when outclassed for racing purposes, the boats could be used, with some modification, for pleasure purposes as fast runabouts, etc.

MARCEL WAVE II, A 35-FOOT FAST RUNABOUT, WHICH HAS MADE BETWEEN 22 AND 23 MILES PER HOUR. SHE REPRESENTS A MODERN TYPE OF FAST, LUXURIOUS PLEASURE CRAFT.

Within the last five years the progress in this latter class has been little short of phenomenal. When, in 1903, Fiat I was turned out, she was considered a wonder, as indeed for that time she was. A 24 horse-power, four-cylinder auto marine motor gave her a speed of 18 miles per hour. She was extremely light-built, and the location of her engine forward of amidships protected by a hood was then quite an innovation. Besides her steersman and engineer, she had an after cockpit which would seat three or four. She was one of, if not the best, the extremely fast pleasure type of craft, and therefore serves particularly well as a comparison with similar craft of to-day.

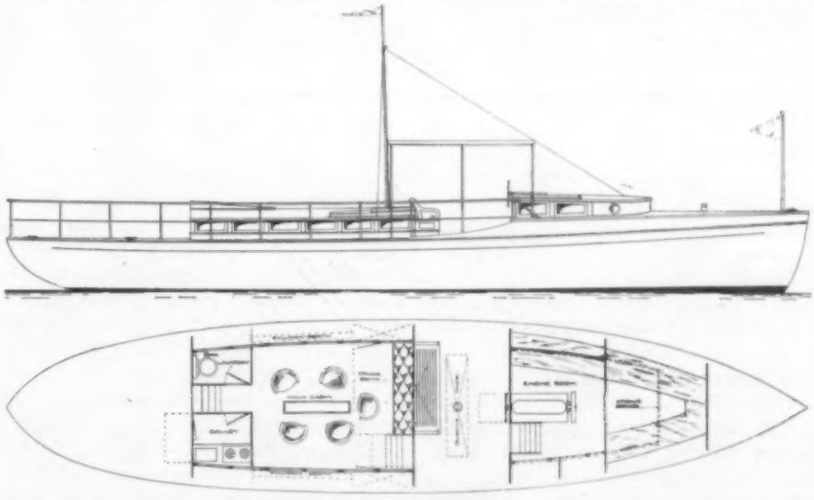


MARCEL WAVE II, 35 FEET BY 5 FEET BY 2 FEET 10 INCHES. HER ENGINE IS UNDER FORWARD HOOD, AND SHE IS STEERED AND CONTROLLED BY ONE MAN.

As a modern de-

DELIAH, A 60-FOOT TWIN SCREW MOTOR BOAT, BUILT IN 1902. SHE WAS A VERY EARLY, IF NOT THE FIRST, CRAFT OF THIS CLASS WITH THE NOW POPULAR BRIDGE DECK.

velopment of this class, the Marcel Wave II, owned by Mr. W. O. Blake, of Boston, may be taken as a type. This boat is used at Hingham, Mass, on the South Shore, and she is 35 feet in length with 5-foot 3-inch beam, and her 6-cylinder, 50 horse-power Peerless auto marine engine gives her a speed of 22 miles per hour, which has on occasions run up as high as 23. As will be noticed, her accommodation plan is a great improvement on that of Fiat I, as she has seating accommodations for eight—six in the after cockpit and two in the steering cockpit. Her engine, located forward under the metal hood, is quite easy of access, and her control levers for advancing speed and operating throttle, which are located on the steering wheel, enable one man to both steer the craft and control the engine. This allows the owner to get just as much practical enjoyment out of her as does the owner of an automobile. In fact, these modern runabouts, with their glass wind shields for protection from wind and spray, and the folding auto top—a splendid protection when you want it, and entirely out of the way when lowered—gives the same degree of comfort as a high-class touring car.



A 52-FOOT BY 11-FOOT CABIN CRUISER. A 1908 COMBINATION OF TRUNK CABIN, RAISED DECK AND AFTER-TRUNK TYPE.

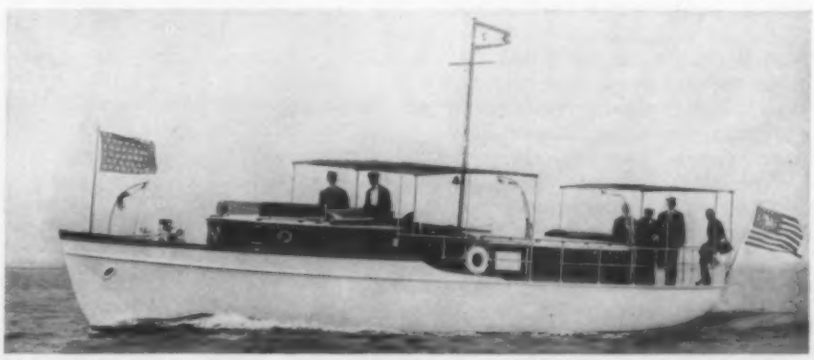
During the coming year the demand for high-speed runabouts with the easy control of an automobile will undoubtedly continue in popularity, and it is probable that for 1909 craft similar to Marcel Wave will be built to develop as high as 23 miles. Undoubtedly there will also be a call for a similar type of craft, which, by reason of lower-powered engines, would be more economical to run and develop speeds in the neighborhood of 20 miles.

In motor boats of the cruising class the last half decade has been productive of an almost total revolution in the matter of accommodation arrangements. This can scarcely be better illustrated than by a comparison of the 50-foot gasolene cruiser Ellida, of the vintage of 1903, and Wistaria, the 52-foot cruiser of the current year. Ellida was 10 feet beam, and had an extreme draft of 36 inches. She was fitted with a 16 horse-power, two-cylinder Globe engine, which developed a speed of 10 miles per hour. This speed was so good for the size and weight of the craft that the boat is well worthy of being taken as a representative of one of the best craft of her type for that year.

By comparing her with the 1908 boat, which is but 2 feet longer and has 11 feet beam and 36 inches draft, it will be noticed that, with an increase of somewhat more than 50 per cent. in horse-power, there is an increase in speed of 10 per cent., Ellida having a 25 horse-power, four-cylinder engine. This shows that the tendency has been along the lines of the development of larger and more seaworthy craft; getting, in fact, the most boat possible within certain dimensions.

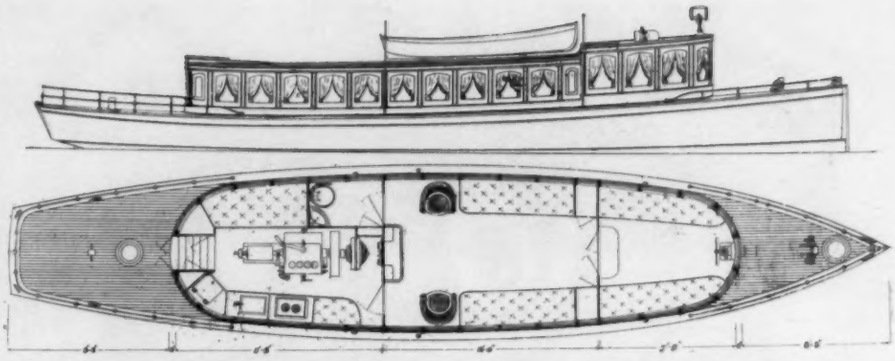
It will be noticed from the elevation view of the Ellida that she is of the one-time conventional class cabin type, and a feature of her is the arrangement made for the accommodation of two chairs in the main saloon. She had seating accommodations for five on transom seats, which made fairly comfortable berths. The Ellida was, to all intents and purposes, an "indoor boat." The after deck was flush, and did not give very much room, and in pleasant weather the big sash windows were dropped and she became a standing roof launch.

The Wistaria, on the contrary, while giving splendid cabin accommodations, more conveniently arranged than the former craft, is in contrast a real "outdoor boat." She has plenty of deck



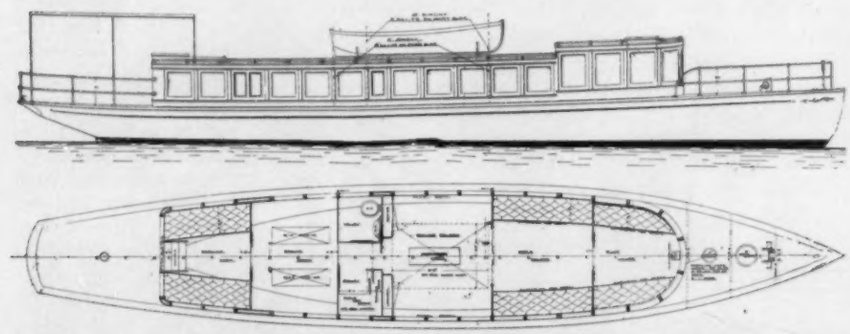
THE 52-FOOT WISTARIA. A MODERN GASOLENE CRUISER WITH A BRIDGE DECK. NOTE THE LESSENING IN HEIGHT OF CABIN ROOF AND BRIDGE FLOOR AS COMPARED WITH DELIAH.

room forward to handle anchor and windlass. Her amidship steering bridge, covered by an awning, gives a point of vantage for steersman and guests, and the occupants thereof are well protected even in rough weather. She has a flush after deck, and in place of the Ellida's high pilot house with large plate-glass windows, which must necessarily have been a point of weakness in rough weather, the Wistaria has a low, compact and very seaworthy trunk cabin forward, covering engine room and crew's quarters, and the engine controls are so arranged that the man on the bridge is practically managing engineer. The Wistaria, while low in height from cabin roof to water line, has more freeboard.



50-FOOT BY 10-FOOT BY 3-FOOT CRUISER ELLIDA, BUILT IN 1903. SHE WAS A REPRESENTATIVE OF THE LARGER CLASS OF GASOLENE CRUISER, AND MADE 10 MILES PER HOUR.

Another illustration of the change in accommodations and a very good example is that of the 57-foot boat turned out by another builder in the spring of 1903, and compared with one of the same firm's 60-footers of January last. The former type of craft had a somewhat lower freeboard and a higher cabin roof, with exposed plate-glass windows of large dimensions, which must necessarily be a source of weakness in heavy weather. Then, too, her interior accommodations remind one very much of a horse-car. One compartment leads directly into the other, and either through the cabin or along the narrow side decks the crew go forward to the wheel. The 60-footer shows how, with a craft of but very little more over-all length, the deck space, practically absent in the 1903 craft, assumes very considerable proportions. In the type of glass cabin launch it was possible, it is true, to provide the cabin roof with a railing and utilize it as a deck; but this deck was so high above the water line that the weight of many people upon it was calculated to seriously affect the boat's stability when she was navigating in any but comparatively smooth water.

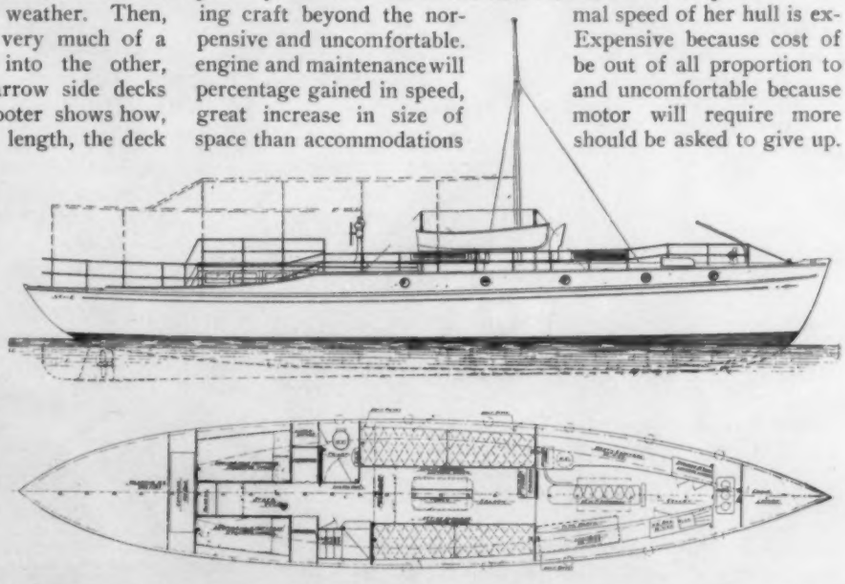


67-FOOT BY 11-FOOT BY 2-FOOT 11-INCH GLASS CABIN CRUISER OF 1903. SHE HAS CONSIDERABLY LESS DECK ROOM THAN THE 1908 CRAFT.

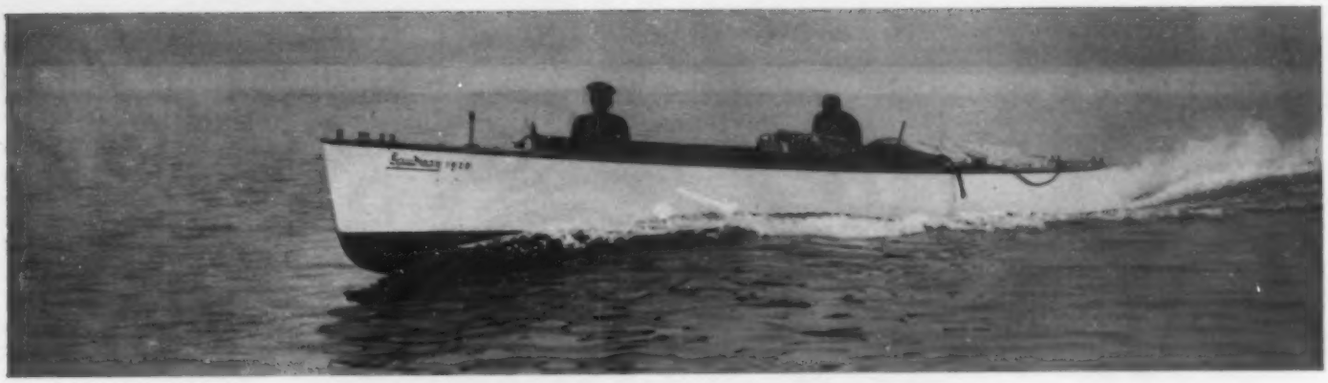
With the modern raised-deck craft we have in the larger sizes practically every inch of her deck room available. There have, of course, been numerous instances in which the raised deck of the hunting cabin type of launch has been overdone.

For use on small inland waters, particularly in the South, the modern type of craft has been more or less in its earlier forms open to the objection of lack of light and ventilation; but for rough water and occasional outside use the seaworthiness of the modern types more than compensates for this objection. Moreover, in our later developments of the trunk cabin raised deck which appear in combination with the raised trunk and side windows of good size, a great deal of the ventilating troubles have been obviated. The old type of glass cabin boat had its uses. It has them still. It will probably never go out of use, but for some years we made the mistake of trying to adapt it to waters where it really had no right to be. It is probable that during the coming year more and more attention will be paid to the matter of stability of hull.

As a matter of fact, we have been inclined of late to give our craft too little draft. In some the height of the freeboard has been out of all proportion to the amount of under body. It is doubtful if any great increase in speed will be obtained in "really truly" cruising classes of 1909. Moderate power, moderate speed and economical cost of operation will continue to appeal to the cruiser. Our power yachtsmen realize the fact that endeavor to push a cruising craft beyond the normal speed of her hull is expensive and uncomfortable. Expensive because cost of engine and maintenance will be out of all proportion to percentage gained in speed, and uncomfortable because great increase in size of motor will require more space than accommodations should be asked to give up.



A 60- FOOT BY 11-FOOT BY 3-FOOT RAISED DECK CRUISER OF 1908. SHE HAS FAR BETTER CABIN ARRANGEMENT THAN THE CRUISER OF 1903, AND ALL THE DECK SPACE IS AVAILABLE. NOTE THE HIGH FREEBOARD FORWARD.



SPEEDWAY 1920, A FIVE-YEAR-OLD BOAT WHICH SURPRISED EVERYONE BY HER PERFORMANCE IN THE MOTOR BOAT CARNIVAL.

The Month in Yachting

Photographs by Edwin Levick

WHEN the plans of the Class R sloop Hoyden were printed in this magazine some time ago, we received not a few letters commending her lines and embodying the prediction that she would prove a flyer of the first order. I thought so myself, if the information be of any interest. The point is, that in the season just past, her first season, she more than justified the prophecies concerning her. All of which goes to show that the persons who wrote to us concerning her were men of discernment and understanding.

Now the small boat has amounted to something this year. Had it not been for the little fellows, the past season would not have been worth much. I admit it, and I will also admit that in this department of YACHTING it has been the large, expensive, millionaire's windjammer which has claimed a large proportion of attention. But no more. The small boat has become too important to neglect. And yachting in this country will grow and thrive only as the small craft grow and thrive. A season in which one is able to point to entry lists of more than a hundred small boats, in not one but many regattas, can in no sense of the word be put down as an unsuccessful season, no matter how many owners of the large racing windjammers have remained ashore throughout the summer.

Let us then return to the Hoyden. She was the first R boat to be built under the uniform rule, and there was, therefore, a great amount of speculation as to how she would fare with the more ultra-built boats of her class. Well, she fared mighty well. When she went out of commission last month her record was eleven firsts, one second and two thirds, out of fourteen starts. In the racing of her class in the regattas of Larchmont race week she made forty-one out of a possible forty-two points. This is a record worth having, and I do not doubt that Donald B. Abbott, her owner, is as proud of her and as well satisfied with the pleasure derived from racing her as Mr. Maxwell is with his Astor cup-winner Queen, which cost several hundredfold more money to build.

HOYDEN, THE FIRST CLASS R BOAT DESIGNED AND BUILT UNDER THE UNIFORM RULE. SHE HAD A REMARKABLE SUCCESS FOR THE SEASON, WINNING ELEVEN FIRSTS, ONE SECOND AND TWO THIRDS OUT OF FOURTEEN STARTS.

Speaking of small boats, I have received the good news from a friend in Montreal that the Royal St. Lawrence Yacht Club intends to challenge for the Seawanhaka Cup next year. This trophy is now held by the Manchester (Mass.) Yachting Club, and is one of the famous small-boat trophies of the world. This prize was first offered by the Seawanhaka Corinthian Yacht Club in 1895 as an international trophy. Mr. Arthur Brand, an Englishman, challenged for the cup that year, bringing to Oyster Bay his 15-foot sloop (half rater) Spruce IV. The American defender Ethelwyn defeated her. The following year came a challenge from the Royal St. Lawrence Yacht Club. The Seawanhaka yachtsmen built just twenty-six of these little craft, in order that a wonderful defender for the trophy might be chosen. El Heirie, designed by Clinton H. Crane, was finally selected. The Canadian boat Glencairn sailed away with the trophy, however, just as easily as though the Americans had built but one defender.

Three times the Americans sent boats to Lake St. Louis to regain the trophy, but in every case the attempt was unsuccessful. The Seawanhaka yachtsmen gave up the fight after their third attempt, and it remained for the Manchester Yacht Club to bring the cup back to the United States after it had been in Canada for nine years. News that the Canadians are coming to the States once more in quest of the Seawanhaka prize may be regarded as important. Two members of the Royal St. Lawrence Club, according to my information, will build challengers, and enthusiasm is running high among our brothers of the North.

Another challenge which is on the tapis is that of the Royal Canadian Yacht Club for

the Canada's Cup, now held by the Rochester Yacht Club. It will be remembered that in 1907 the American defender Seneca, sailed by Addison G. Hanan, succeeded in keeping the trophy on this side of Lake Erie, winning races from the Payne challenger Adele with considerable ease. It is rumored that the Canadians do not intend to bother with English designers next season, having been convinced by the defeats of the past two years that home talent can build losing boats at half the price charged by such famous English designers as Fife and Payne. Then, too, there is a feeling that in Canada are to be found men who can produce boats better adapted to meet the peculiar meteorological conditions that obtain on Lake Ontario than the output of foreign talent. The members of the Royal Canadian Club will be serving the best interests of the sport in the Dominion by giving their own designers a chance to pit their skill against American creators of swift sloops.

Among the motor craft which contested in the Hudson River motor-boat carnival last month, two stood out in a class by themselves, Speedway 1920 and Elco. They stood out not because they were the swiftest boats in the regattas, for they were not. They did demonstrate, however, what intelligent care may produce in the way of fast craft which at the same time are beautiful in outline and finish, dry and comfortable at top speed and, not least in the construction of many, so nearly noiseless in operation as to cause surprise and comment.

Fast enough to pick up and pass every boat in the country—with a few exceptions—and yet so arranged as to be comfortable for runabout service, and almost totally lacking in the noise which we have come to regard as inseparable with high speed, these two boats will appeal to a class of boating men who don't want to view other craft from the rear, and yet don't care to take their spin enveloped in oilskins and amid the thunder of an unobstructed exhaust. Of the speedy runabout type, they represent a really practical class of day boat, and one which may be used day after day and in weather that the out-and-out racer would not care to negotiate.

MAYFLOWER, AMERICA'S CUP DEFENDER IN 1886. SHE WAS LOST WHILE ON A TREASURE HUNT.

Motor boats lying at anchor in the North River o' nights have been the means of causing renewed activity among river pirates. Boats lying off the Columbia, Hudson River, Colonial and River Edge motor-boat clubs have been boarded by outlaws in the still hours and robbed of everything that could be carried away—carburetors, spark coils, brasses and deck fittings. Father Donnelyn's Filipa; Edward Marshall's Spray; L. S. Keith's Dido; Joseph Reilly's Sophie, have suffered especially from the visits of these pirates. The police have been doing what they could to guard the power-yacht fleet, but no arrests have been made. I would suggest that the members of these clubs meet, select some of their swiftest motor boats, manned by armed men, and set them on patrol duty for the rest of the season. It is certain that such a precaution would serve to bring the present practices of men who make their living by stripping motor yachts to an end.

To what curious ends do famous racing yachts come! This thought is suggested by the fitting out of the old cup defender Mayflower to carry a treasure-hunting expedition to the West Indies, and her untimely end in a hurricane off the coast of Florida. Five young Harvard graduates who sailed in her from New York were rescued by a Norwegian fruit steamship. Thus ended the life of a vessel which in 1886 began her career before applauding multitudes as defender of America's Cup against Galatea. She hardly deserved the fate which finally befell her; but, so far as that is concerned, it was better than going to the junk heap, as Defender did, or as two of the Shamrocks did. With the Mayflower thus in the public eye, we naturally look about to see what has become of other craft of the past, no less famous in their day than Galatea's conqueror. The glorious old Pilgrim, which contested ardently against Vigilant for the honor of defending the America's Cup against Valkyrie in 1893, now cruises placidly with a kicker astern. Puritan, which beat the British cup challenger Genesta, is carrying merchandise and passengers. At the Jamestown Exposition she was exhibited at a small admission price and attracted a great deal of attention. She was in fact one of the few real, good things that were to be seen at that frosty show. Last year she was sold at auction in Providence, and now plies in the fruit trade between Atlantic coast ports and the Cape Verde Island, and in this service she has already proved her value. Think of a modern cup defender as a freighter or passenger carrier—the Reliance, the Columbia, for instance! The idea is laughable. They built stauncher, if slower, cup defenders in the old days. The famous old America, which, in the course of her long career, was, in addition to being winner of the cup which bears her name, a blockade runner in the Civil War, a Federal gunboat, and what not, is now a respectable cruising boat down east. One might write a book of the subsequent careers, checkered or otherwise, of the yachts which, in times long gone, were famous as racers.

The success of J. M. Goetchius's Gielow-designed yawl Windward in the past two seasons, not alone as a cruising boat, but as a racer, has opened anew the old discussion as to the merits of the jiggermaster. When Windward was racing with the 57-footers on the New York Yacht Club cruise two years ago she was at all times an opponent to be feared and reckoned with, and after her northern cruises her owner speaks in the highest terms of her weatherly ability. The jiggermaster type of craft has its enemies, but it also has its friends. I recall well the storm of protest against the criticism of Mr. Paul E. Stevenson in regard to this type of boat several years ago. Mr. Stevenson was certainly entitled to his opinions if knowledge of the subject which he discussed count for anything. He was on the 90-foot yawl Ailsa, which raced across the Atlantic in the contest for the Kaiser's Cup in 1905, and as a result of his experience he formulated a serious indictment against this type of craft. As an analysis of a yawl, Mr. Stevenson's paper on the subject, read, if I

remember rightly, before the Society of Naval Architects, is unique, and constitutes what is regarded in high quarters as a "standard work" on the subject. Speaking of the racing qualifications of the yawl, he maintains that the rig breaks up the sail area and reduces it for racing purposes. When running, the jigger sail, he says, is out of commission entirely, and it is dangerous to carry it when the vessel is lying hove-to. He pronounces as ridiculous the contention that a yawl heaves-to at sea when under jigger and head sails. In moderate weather, he declares, a cutter will outpoint and outfoot any yawl of her size ever built.

ROBERT E. TOD'S THISTLE. THIS FAMOUS OCEAN RACER WILL, IT IS SAID, GIVE PLACE TO A LARGER OCEAN RACER FLYING THE TOD BURGEE.

Throughout most of the Ailsa's passage, says Mr. Stevenson, the jigger sail was a negligible quantity. In heavy seas the Ailsa minded her helm no more than if she had been rudderless, whereas in smooth weather she handled as readily as a small sloop A jumping seaway was generally regarded as the condition in which the jigger sail was of the greatest use to a yawl; at least such was the opinion before Mr. Stevenson's outburst of iconoclasm. While, as I have said, there were many who arose to defend the jiggermaster against Mr. Stevenson's attacks, there was none whose experience qualified him to enter the lists successfully. And yet the satisfaction which the big yawl Vigilant and the jiggermasters Navahoe and Windward have given their owners, would indicate that there must be some merit in this type of boat. I should like to receive some letters on the subject from men who sail yawls. YACHTING would be glad to print these letters, feeling that an interesting discussion of this sort would enliven the sailing man's idle hours in the winter months.

How much of reserve speed has the champion motor-boat Dixie II? This question was prompted by the Schroeder boat's wonderful burst of speed in the motor-boat races held by the Colonial Yacht Club on September 24. This letting out of several extra links, so to speak, in her motor came quite by surprise, as no intimation had been given as to the intention of her engineer. In the 12-metre class race in which Dixie had no competitors, the famous flyer did the 30-mile triangle at an average hourly speed of 26.56 nautical, or 30.55 statute, miles. The wonderful part of the performance was that on the first leg, against the tide, she did the 10 miles in 18 minutes 17 seconds, which meant that she was averaging 32.82 knots, or 37.74 statute miles an hour. How long she could have continued that extraordinary gait only her owner, designer and engineer know. But this is certain: Dixie has not yet shown all that she could do. As compared to the other racing motor boats of the world she is in a class by herself, which is gratifying to patriotic pride. Whenever Dixie II races, the eyes of the motor-boat world will follow her, and her future performances hold much for those who are interested in the matter of sending gasolene boats over the water in the shortest possible time.

Rumor has it that Robert Tod, the greatest promoter of deep-sea racing in this country, is going to bring out one of the largest schooner yachts in the country next year. Of course she will be expected to go fast in any kind of weather. If Mr. Tod's plans go through in regard to the boat, only one meaning may be gathered: a big ocean race in 1909. That would be fine. Mr. Tod's ocean racer Thistle is a fine boat and has taken her share of everything that the North Atlantic brews, but when against such a boat as Atlantic, Mr. Tod's topsail schooner slips back to second place.

In the race for the Kaiser's Cup, Thistle made a mighty good record. She crossed in 14 days 19 hours and 29 minutes, averaging, over a course of 2,980 miles, 8.38 knots an hour. Her best day's run was 289 miles. Some of the best deep-sea photographs ever taken were snapped from the deck of Thistle, and when Mr. Tod steps aboard a larger, swifter, more modern craft, it is to be hoped that Thistle will be in the hands of a person who appreciates what this gallant schooner has done and may yet do. She combines in satisfactory degree the elements of speed and seaworthiness. She carries a yard on her foremast for a raffey, a sail few schooners carry nowadays.

ELCO, A STOCK BOAT, WHICH WON FIRST PRIZE IN THE MOTOR BOAT CARNIVAL RACE TO POUGHKEEPSIE AND BACK, AVERAGING FOR THE DISTANCE 22.57 MILES AN HOUR.

Battery Versus Magneto Ignition

By HERBERT L. TOWLE

WHICH is, on the whole, more reliable, more economical and more generally suitable for power-boat ignition, the battery or the magneto?

Before attempting to answer this question, let us first call to mind the various things which these terms may signify.

Practically speaking, there are three kinds of batteries suitable for power boats: the salammoniac battery, either wet or dry (though usually the latter), the lead storage battery and the Edison caustic potash battery. Of these, the first is the cheapest to buy, and also the shortest lived. The second costs a good deal more to install, but in the hands of a person who understands how to take care of it, it is probably the cheapest of the three systems to maintain. The third has approximately storage-battery steadiness and radius of action, combined with independence of charging stations. It resembles the storage battery in maintaining its discharge rate practically unimpaired until nearly exhausted.

The term "magneto" is rather elastic, and covers several kinds of apparatus. First of all, there is the low-tension magneto, used with make-and-break ignition, sometimes in connection with a separate spark coil, but oftener without requiring that auxiliary. Then there is the high-tension magneto, either self-contained or with a separate spark coil, which generates in its armature a low-tension current from which a high-tension current is induced for delivery to the spark plugs. Then there are the small belt-driven magnetos, now practically obsolete, which are, in reality, small dynamos with permanent field magnets. A variation of the latter is the small dynamo driven at approximately constant speed from a "governor pulley" and delivering its current to a small storage battery, which, by that means, is maintained constantly charged.

The first and most obvious characteristic of the battery as a source of current is its comparatively low first cost. A set of eight dry cells costs not over $4, and the other types of batteries in proportion to their greater capacity are even cheaper, though costing more to begin with. A good magneto, on the other hand, costs, with few exceptions, $100 to $150, and it must be installed at some expense if the engine was not originally built to receive it, because it must run in step with the engine and must therefore be positively driven by gears. On the other hand, such a magneto costs almost nothing to maintain after it is once purchased. It is true that the gears wear out in time, but the time is so long that it is hardly worth mentioning, and other wear is even more negligible.

A battery is a chemical apparatus, which may or may not be in working order, regardless of the condition of the engine. A magneto, on the other hand, is driven by the engine, and unless it is out of order, it must furnish current as long as the engine runs. It is not so handy for starting, because until it turns at a certain minimum speed it does not generate a spark, and it may be impossible to crank the motor fast enough. For this reason a battery is always handy, and frequently essential.

Since the battery starts an engine easily, and its main drawback is that it must be charged or replaced when exhausted, and since the magneto, on the other hand, starts with difficulty, but furnishes an inexhaustible current when once started, it is obvious that by combining these two systems the deficiencies of each are happily supplied. A battery used only for starting will hold its charge for a long time—probably all the season.

It must be said that although the magneto furnishes a much more abundant spark than the battery, it has not fully reached the point where it may be unreservedly recommended as sole ignition equipment. It is indeed often thus used in automobiles, but the automobile whose spark fails is simply stalled, whereas the power boat, under like conditions, might drift ashore or be run down in a fog. As a mere matter of insurance, therefore, and not because there is a distinct probability of its being needed otherwise than for starting, an efficient battery should always be carried.

There was a time when it was considered the proper thing to have the battery and magneto ignition systems entirely separate, even to the spark plugs. This is not now considered necessary, since spark plugs are no longer the tricky affairs they used to be, and if one cylinder stops working owing to soot on the plug, it is but a few minutes' work to replace the plug while the engine is still running. If the magneto is of the high-tension type, it and the battery may perfectly well spark the same plugs. If make-and-break ignition is used, the same thing may be done, particularly if the ignitors are of the snap type, giving a quick rupture even when the engine is turned slowly. If, however, the ignitors are of the type common in automobiles, with cams making a quick descent, but not an actual snap, the break will be rather slow until the engine gets up to speed, and therefore it will be difficult to start by cranking. In the case like this, trouble and elbow grease may be saved by using a jump-spark outfit with the battery. This, of course, implies a timer and set of spark coils, or a timer, distributor and single synchronized spark coil. The cost of this outfit will be considerably more than the cost of the plain gas-lighting coil required for low-tension battery ignition, and it may be well to make sure that the engine starts hard before spending the price for special equipment. It should, however, be said that make-and-break ignitors use up the battery rather fast, so fast indeed that dry cells last hardly any time at all, whereas a good jump-spark equipment (and a cheap outfit is money thrown away) will give a good spark on very little current.

In passing, it may be remarked that in selecting a spark-coil set for jump-spark ignition, it is well to have a guarantee that the current consumption will not exceed one ampere when the trembler is buzzing with the engine standing still; or, better yet, the purchaser can test the coil himself if he has a low-reading ammeter suited to the purpose. The secondary terminals of the coil should be connected to the battery it is intended to use, and the spark points should be set ⅛ inch apart. When the trembler is adjusted so that a steady stream of sparks passes, an ammeter in series with the coil should read no higher than just mentioned. Some coils take from three to five or six times as much current as others for the same sparks produced and exhaust the battery more rapidly in proportion.

One advantage of the magneto which the battery does not share is, that the very much stronger spark it gives will ignite with certainty weaker mixtures than the battery will handle. This results in some slight gain in fuel economy. On the other hand, the magneto will also ignite very rich mixtures, and while this saves misfiring, which might be inconvenient, it is liable to deceive the owner regarding the economy of his engine. In addition to the greater range of mixture quality which the magneto will handle, it is generally credited with developing greater power

than the battery from equally good mixtures. This is probably due in greater part to the more accurate spark-timing which the magneto gives. It is a recognized fact that no two tremblers on jump-spark coils will long remain "tuned" alike. One will be faster than another, and the spark-timing will be correspondingly affected. This, of course, applies to jump-spark systems only. The writer is not aware that the low-tension magneto is claimed to give more power on a good mixture than a high-tension battery system in which the sparks are accurately synchronized.

As the magneto starts with greater difficulty than the battery, it has also a low limit of running speed, below which it does not generate current enough for an effective spark. Usually this limit is lower than the lowest engine speed likely to be desired for maneuvering. Sometimes, however, the contrary is true, and a good engine with a very flexible carburetor may find its low limit fixed by the magneto rather than by the carburetor. In such a case the battery will again be called into service.

Since the magneto is practically non-wearing, whereas the battery costs nearly in proportion to the extent it is used, it follows that where the boat is used a great deal the magneto will save its cost in battery renewals, whereas in a seldom-used boat it would be quite too expensive. In fact the whole question really turns on how much inconvenience and expense is saved by installing the magneto, and what the gain is worth to the owner. Unless the engine has four or six cylinders, the use of a magneto is rare, since the same machine must be used for two cylinders as for the larger number, and the battery expense with less than four cylinders is not usually considered excessive. Something, too, will depend on how well the magneto can be protected, since water, either fresh or salt, will put it out of business in short order if it reaches the high-tension terminals or the armature winding. Complete protection against water, whether in the form of rain, spray or bilge, is an absolute essential to satisfactory use of the magneto.

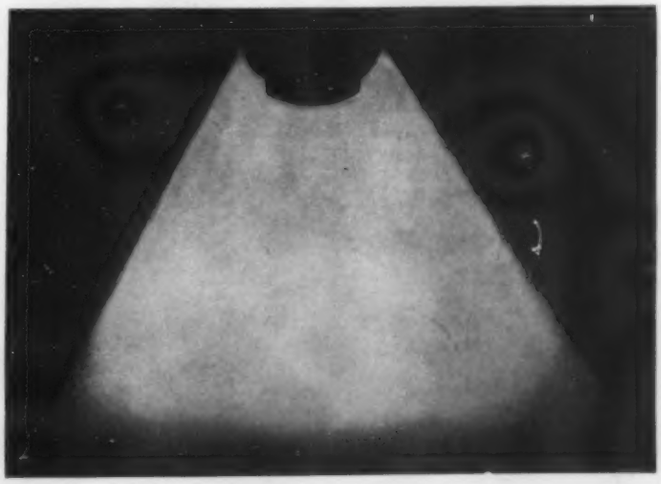
Searchlights for Motor Craft

By K. E. TREADWELL

UNTIL a skipper has navigated at night for a season with only his regulation sailing lights, he is apt to imagine that a searchlight on a motor craft, particularly of the smaller sizes, is somewhat of a luxury. After he has tried to make his way through a rocky channel on a dark night to pick up a mooring or locate a particular dock, he is rather apt to view things differently. A luxury searchlights probably were a few years ago; but not to-day, when they can be procured in sizes running from the tiny 4-inch lamp suitable for the smaller-size open launches to the larger lights, with which the steam yachts are now equipped.

LONG, NARROW BEAM USUALLY THROWN BY A SEARCHLIGHT.

Searchlights may be classified as follows: Those operated by acetylene gas; electric searchlights using incandescent bulbs, and electric searchlights in which the illuminant is the electric arc. For the smaller craft, acetylene or incandescent searchlights are more suitable; and for the very smallest sizes of open craft, the acetylene searchlight is probably better than the incandescent electric.



WHEN THE DISPERSION LENS IS BROUGHT INTO PLAY THE ILLUMINATION ASSUMES A WIDE FAN-LIKE SHAPE.

For the acetylene searchlight a generator, by which the acetylene gas is produced from the carbide, or a removable gas tank may be used. With the former system the owner purchases the carbide and generates his own gas. In the second, he simply purchases a tank containing a certain number of cubic feet of acetylene gas, which, when it is empty, may be exchanged for a full tank. Gas may be obtained in tanks at a cost of 2 cents per cubic foot. Calcium carbide in 10-pound drums costs 10 cents per pound. In 100-pound drums it costs 4 cents a pound. In spite of the apparent economy of the 100-pound drum over the 10-pound, the saving is not anything like that amount, unless the purchaser uses a very large generator, which will consume his stock of carbide quickly. The reason for this is the fact that, even with a smaller-size generator, the contents of the 10-pound carbide drum will be quickly used, while the 100-pound drum will possibly last through two seasons; and every time it is opened the atmospheric moisture enters and begins its insidious work on the carbide.

One can see that it would only be necessary to open the drum a sufficient number of times, exposing the contents to the atmosphere, to put such a large percentage of the carbide out of business so that the actual cost of the useful residue would amount to more than if bought in small quantities at higher prices per pound.

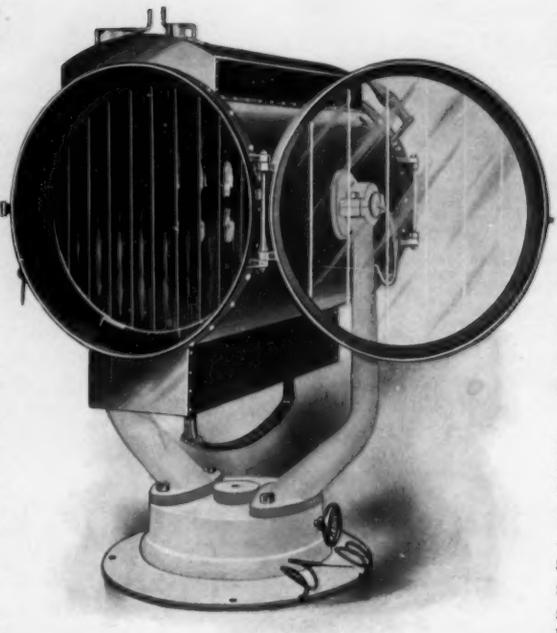
Acetylene searchlights are made in six popular sizes. In describing these, it must be remembered that the dimensions, such as 4 inches, 6 inches, etc., apply to the diameter of the *shell* of the lamp, and that most searchlights are now made with "off-set" faces, which have a diameter from 1 to 1¾ inches greater than the shell of the lamp itself.

The 4-inch acetylene searchlight gives a light equal to 400 candle-power, which will allow the skipper to pick out, on a dark night, a mooring buoy 50 to 60 feet distant. It consumes three-

eighths of a cubic foot of gas per hour, and is suitable for open craft, from the smallest sizes up to 20 feet over all in length. A 6-inch lamp gives 800 candle-power, and is effective at a distance of 80 to 90 feet and burns ½ foot of gas per hour. It is suitable for open launches of 20 to 25 feet in length. The 7-inch gives 1,000 candle-power. Its effective radius is 100 to 110 feet; it has the same size burner and, therefore, the same consumption per hour as the 6-inch light; its increased candle-power and greater range are due, not to increased consumption of fuel, but to the larger-size reflecting mirror at the back of the lamp.

Incidentally, it might be observed that it is not the lens on the front of the lamp which gives the searchlight its power, but the reflecting and focusing properties of the mirror behind the flame.

This is illustrated by the diagram showing the direction of the rays of the arc searchlight as reflected from a Mangin mirror. The mirror is thicker on the edges than it is in the center. It is silvered on the convex surface for reflecting purposes.



AN ELECTRIC ARC SEARCHLIGHT WITH DISPERSION LENS IN POSITION AND THE ORDINARY LENS SWUNG ASIDE.

When the light strikes the mirror it passes through the glass to the back of the silvered surface, from which it is reflected, passing out in straight lines. When the light from the arc strikes the glass and passes through to the silvered surface it is bent slightly, and on its appearance is bent again. The effect of this is to produce parallel rays, and the curvature of the two surfaces will be so proportioned that the rays will be truly parallel from all points of the silvered reflecting mirror of the searchlight.

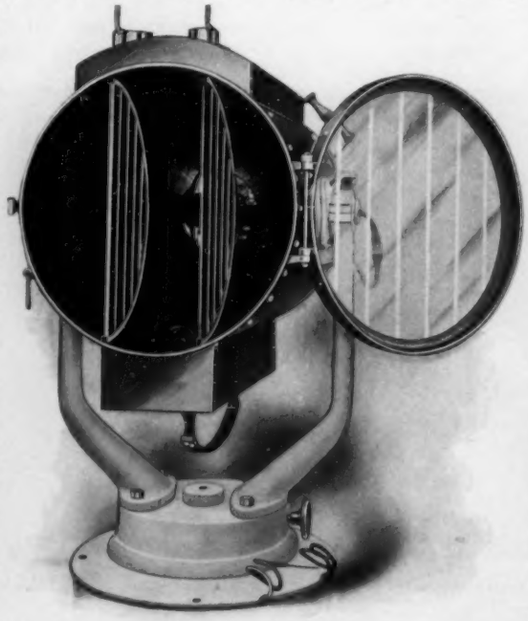
It is important that the arc be in focus of the mirror, for if too far away the rays, instead of being parallel, will converge to a point and then diverge. If, on the contrary, the light is too close to the mirror, the rays will spread out to a cone, leaving a dark center. In the largest type of searchlight parabolic mirrors are used. In these mirrors the curvature is not constant, but is shortened at the center, gradually decreasing toward the edges; but with this type of searchlight the average yachtsman will be little interested.

As a matter of fact, ordinary plate-glass is used for searchlight fronts, and in the larger sizes it is cut into narrow strips in order to prevent danger of the glass cracking by expansion under heat or by the sudden cooling of a portion of its surface through drenching with spray in rough weather. There is also another bit of economy in this method, as it allows the owner in case of breakage to get off with the purchase of a single narrow strip instead of an entire lamp front.

The 8-inch acetylene searchlight gives 1,300 candle-power light. It has a range of 160 to 180 feet, and consumes three-quarters of a cubic foot of gas per hour. This size is suitable for use on cabin launches of 30 to 40-foot over-all length. The 9-inch lamp gives 1,500 candle-power, and has a range of 220 to 230 feet, and is suitable for cabin motor boats of 40 to 50 feet in length. For cabin craft of 50 feet in length and greater, the 11-inch lamp, with 2,000 candle-power and 300 feet effective radius, which burns 1⅛ cubic feet of gas per hour, will fill the bill for those who desire an acetylene searchlight.

If the owner wishes to generate his own acetylene, a ½-pound generator is suitable in connection with a 4-inch lamp. For the 6, 7 and 8-inch sizes, a 1½-pound size generator is required. A 3-pound generator is required to satisfactorily operate the 9 and 11-inch sizes. The cost of operating these searchlights may be figured from a basis of 2 cents per cubic foot for the gas.

The following figures will give the launch owner a fair idea as to the sum for which an outfit suitable for his craft can be equipped. A 4-inch searchlight costs $13, and the generator would cost about $4 extra. The 6-inch searchlight can be had for $17, the 7-inch for $19 and the 8-inch for $22. A generator suitable for any of these three sizes would cost $10 additional. The 9-inch searchlight would cost $25; but when it comes to the 11-inch the cost jumps considerably, in fact to the amount of $80, although the same size generator would serve either size, and the cost for this would be $15. For less than $5 a pilot-house control can be placed on either of these larger sizes, which will allow the steersman to aim the searchlight either vertically or horizontally, or both, by means of a control lever passing through the roof.



VIEW OF SAME ARC LIGHT WITH THE TWO HALVES OF DISPERSION LENS SWUNG BACK ON PIVOTS READY FOR THROWING THE ORDINARY LENS BACK IN PLACE.

By means of a storage battery the launch owner whose ignition system includes a generator may use an incandescent electric searchlight. By utilizing a generator which will produce current more rapidly than his ignition system will consume it, and store the surplus in a storage battery, he will have at his disposal a supply of current sufficient to operate the incandescent searchlight system.

The first cost of the electric system will be higher; but if it has proper care and attention the cost of upkeep will be less, as there is no fuel to buy. On the other hand, if a man uses his boat but once a week, and is his own skipper and crew, he is therefore unable to give an electric system the care which it needs, and he will probably be better off with an acetylene plant. This is especially the case if he is the owner of an open boat and it is a searchlight only which he requires. An 8-inch incandescent

MECHANISM BY WHICH THE TWO CARBON POINTS, AS CONSUMED, ARE AUTOMATICALLY MADE TO APPROACH EACH OTHER.

electric searchlight has a 200-foot radius, which, as will be noticed, is of higher efficiency than that of the 8-inch acetylene searchlight. Such a light with a pilot-house control could be purchased in the neighborhood of $40. The 12-inch incandescent searchlight would have a radius of 500 feet, and would cost about $50. To operate the 8-inch incandescent searchlight for two hours would require a storage battery of ten cells of 40 ampere hours' capacity and weighing 170 pounds, while a 12-inch incandescent searchlight will require twenty cells or 40 ampere hours in the way of a storage battery. The outfit for this size would weigh in the neighborhood of 350 pounds.

In the incandescent searchlight the illuminant is the familiar incandescent lamp in which the filaments of poor conductive power are brought to incandescence in a nearly perfect vacuum enclosed by a glass bulb. The arc light relies on an entirely different principle for its illuminant. In this style of searchlight it is the passage of a current of high voltage between two carbon points which causes a continuous as well as an enormous electric spark; during the operation the carbon itself is consumed, and it is necessary to provide a mechanism by which the carbon points as they are consumed are kept continually at the same distance from each other, to prevent the occurrence of a gap too great for the spark to jump. For the reason that this mechanism occupies considerable room and must receive careful treatment, and the fact that it requires a high voltage and a large lamp, the arc light is, for the most part, to be found in the larger type of craft. On a boat, however, of 30 feet and upwards, it is probably the most satisfactory searchlight, provided that among the crew the owner has some one who can be depended upon to give the system the proper attention. An arc searchlight with a 9-inch mirror will illuminate objects at a distance of one-half to three-quarters of a mile, and will consume from 5 to 10 amperes an hour. Such a searchlight will range in cost, according to finish and form, from $120 to $180. For operating an arc searchlight of these dimensions a special dynamo, which may be operated from the fly-wheel of the engine, may be used. Such a dynamo, occupying a space of 19 x 7 x 10 inches, weighing 80 pounds and running at a speed of 1,600 revolutions, will furnish a continuous current of 8 amperes at 60 to 70 volts, and will draw down about ¾ horse-power from the engine to operate the searchlight at full candle-power. Such a dynamo would cost a trifle less than $70.

For larger craft a direct-connected generating set, consisting of an independent gasoline engine and a multi-polar dynamo, is the better proposition. Such an outfit would weigh in the neighborhood of from 475 to 700 pounds, and would vary in cost according to the horse-power and dimensions of the outfit.

Within the last few years supplementary lenses for varying the nature of the beams from the searchlight have, by reason of their extreme convenience, come into vogue. These lenses—dispersion lenses, as they are called—are strips of heavy plate-glass ground on one side to a convex curve and highly polished. These lenses possess the quality of spreading the light passing through them out into a fan-shaped field. This, while shortening the range of the effectiveness of the searchlight, broadens the field, and is particularly valuable where the skipper desires to cover a wide stretch of water at comparatively close range. The form of the searchlight beam obtained by means of dispersion lenses, as compared with the beam from the same lamp when the dispersion lenses are removed, is shown by the two illustrations herewith, and gives a better idea of the results than any amount of explanation.

When these lenses first came out they were mounted in separate rings, and when the pilot desired to use them this ring was substituted for the regular front of the searchlight. This process was such a nuisance, however, that the lenses were rarely used. A new method, however, of cutting the lenses in half, and mounting each half separately on a swinging shutter and operating them by an extra mechanism, which would allow their being thrown instantly into position when desired and brought out of operation when no longer wanted, has practically made the modern high-powered searchlight a double-purpose mechanism.

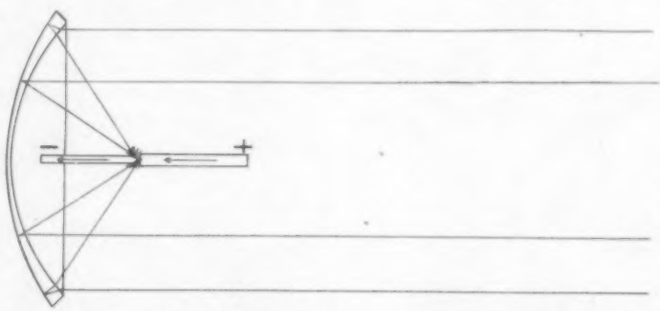
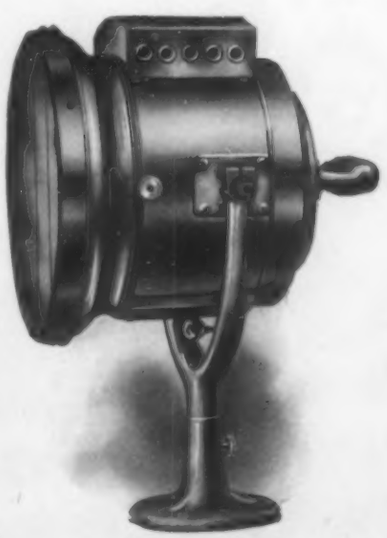
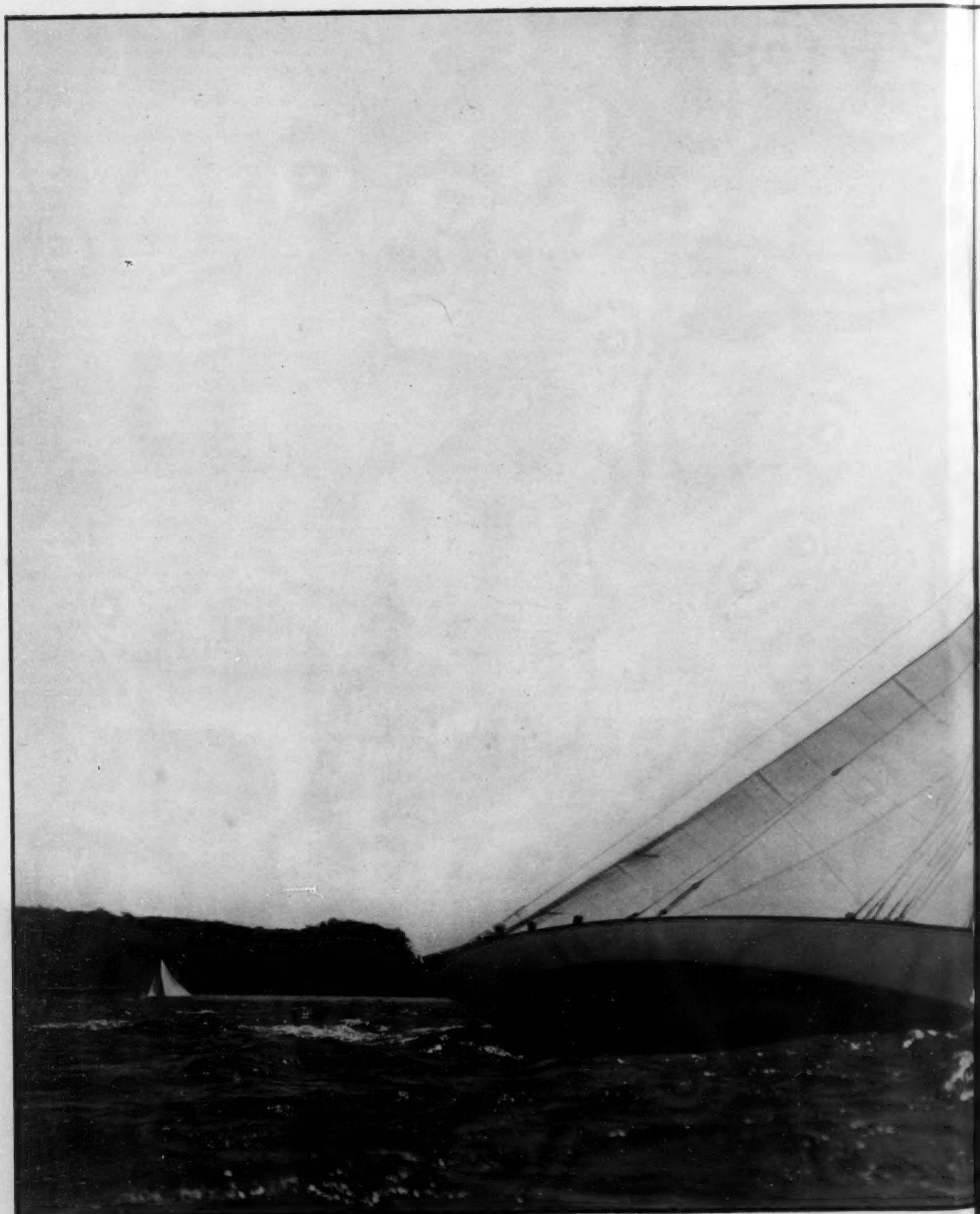


DIAGRAM ILLUSTRATING THE EFFECT OF A MANGIN REFLECTOR ON THE RAYS FROM AN ARC LIGHT, AND HOW THE CONVERGING BEAMS ARE CAUGHT AND THROWN BACK IN PARALLEL LINES.

As regards manipulation, searchlights may be divided into two classes: those aimed by the hand of the helmsman without the intervention of any levers or wheels and those placed on the top of the pilot-house directed by the pilot by means of an axle on wheels or levers projecting through the roof. The former class may be mounted very low on the trunk of a hunting cabin launch and within reach of the steersman, or it may be on a tall swivel mounted on the steering bridge. The most commonly used form of mechanically-aimed searchlight is the one already described with the controlling mechanism running through the top of the pilot-house roof; but a variation of this type has been evolved which allows the mounting of the searchlight at the forward end of the cabin roof, and which allows its being controlled by the steersman from the cockpit.



A HAND-OPERATED SWIVEL ACETYLENE SEARCHLIGHT. NOTE "FLARE" OR INCREASED DIAMETER OF GLASS FRONT, AS COMPARED WITH DIAMETER OF SHELL.



THE POWER OF THE WIND. ISTAL

PRINT IN

A DOWN ON HER SAILING LINES.

IN BINDING

Around the Horn—The Log of a Second Mate

By T. JENKINS HAINS

CHAPTER VIII.—(Con.)

YESTERDAY occurred another incident that is but typical of the sailor's helplessness when undergoing punishment for transgressing against the captain's temper or whim. A sailor, called Tom, was suspected of having nails in the heels of his sea boots. These are prohibited on account of the possible marking of the decks while hauling on the running rigging.

He was called aft by the captain, who told him to hold up his feet for inspection. The captain just rubbed his finger over the heel of one of his boots and then with an oath sprang upon the unfortunate fellow like a wild beast, choking him and pounding him in the face so that he became almost insensible. Then, after exhausting himself, he turned the man loose and ordered him forward. The poor fellow staggered to the break of the poop and started down the steps onto the main deck, but before he could get down, the captain, regaining his breath, rushed at him anew and kicked him unmercifully in the back of the neck as his head came on a level with the poop deck. After this the man escaped forward, where he was let alone to patch himself up the best way he could and continue on duty until his watch was relieved.

There has been a great deal of grumbling on account of the poor quality of the food and the lack of lime juice furnished the men. They have not tasted the last article as yet, although they are entitled to it by law and signed for it in the ship's articles before leaving port. Their food consists now of the scraps of salt beef that are left after the "doctor" trims up a lot for the cabin mess, always picking out the best, of course, for the cabin. This beef, while made of scraps that have been repickled from the stores left over from the last voyage, is tolerably good, that is, as good as beef of this description can well be; but as there are no potatoes left for the men, and as all they have besides is an allowance of hard bread and weak coffee, made from roasted wheat, it is not unreasonable that they should want their allowance of lime juice. However, as there is an unlimited supply of good water, there are no signs of ill health among them.

Lime juice is not an infallible remedy against scurvy, as many sailors suppose; it is simply an anti-scorbutic of great value, and, without doubt, has been of use in preventing this dreaded disease.

It hails and snows every day, and this morning we were treated to a hailstorm of unusual violence. The stones were as large as buckshot and drove through the air at a rate that made them intensely painful to anyone exposed to them.

January 6. To-day I had a look at the third mate's log book, and for a sailor he is quite poetical. It begins thus:

The Cape we pass.
Why watch the glass
With grim, uncertain dread?
See mercury rise
Up to the skies
Then drop again like lead.

Hurrah! This morn
We've passed the Horn
And Diego Ramirez;
With lurch and lunge
Does this ship plunge
Nor'west before the seas.

His lyric muse evidently took a sudden flight about the time he had perpetrated these lines, for at noon the ship was hove-to again under storm canvas and her position, as worked out by the captain from a tolerably good sight, was 56 degrees S. latitude 76 degrees W. longitude. Several of the vessels sighted the other day are still in sight, although, in spite of the assurances of the mate as to their identity, we have only recognized one. She is the Reuse, which is a fine top-gallant yard ship and well known to both the captain and mate.

While looking over the lee bow, the mate discovered that a butt or plank end had started to splinter out some three feet above the water line. The carpenter was sent to make an examination of the injury and found that very little water came through the opening. This was welcome news, for a butt starting below the water line, where the pressure is great upon it, is nearly always fatal to a vessel. Damage of this nature is caused by the frightful straining of the ship when so deeply loaded, and is the usual cause of vessels foundering when hove-to for long periods in heavy weather.

January 7. We are still hove-to, under topsails, and the gale has decreased very little in violence. This morning a "homeward bounder" passed us and made many of us feel homesick. She came bowling along before it under top-gallant sails, making something over twelve knots in spite of the tremendous sea. We hoisted our name signals and she answered, being but half a mile off and easily discernible through the drift. In spite of the short distance between the ships, every time the Silver Sea went into the trough of the sea the stranger's royal trucks completely disappeared from our vision behind the immense mountain of water between us.

January 8. Had a narrow escape to-day from carrying away something. In the morning the captain grew bold and began putting on canvas. At dinner time a squall struck the ship and for some minutes it looked as though she would lose a top-mast. All hands, however, managed to get her dressed down in time to prevent an accident, although there was a great deal of straining done.

The third mate had a narrow escape from being washed overboard while the ship was plunging madly into the heavy sea under the pressure of too much canvas. As he stood on the poop, a tremendous sea appeared to windward, rising as high as the yard arm, and came rushing down on the staggering ship. She rose to it, but not enough, and the next instant over it came. The third mate dived under the weather rail and, seizing a rope, hung on for his life. The water passed over without much damage, and the third mate appeared again, still holding on and more than half drowned. Our latitude at noon was that of Cape Horn, so everyone was disappointed who knew our whereabouts. The third mate was heard to say that he wished he had stayed ashore and faced the lynx-eyed gentry who were looking for him, for he'd rather have been sentenced to penal servitude for life than to be on this floating diving-bell.

January 10. The taffrail log registered one hundred miles, at noon to-day, for the last 24 hours. We have been seventeen days in the latitude of the Cape and every mile the ship can make away from it is looked upon as valuable. At seven bells in the afternoon, the mate called down the companionway to the cap-

tain, "We are going to catch it, you had better come on deck."

To the northeast a heavy black bank of clouds rose rapidly.

"All hands turn to and shorten sail," roared the captain as soon as his foot struck the quarter deck, and the watch turned out in a moment.

The ship was under reefed top-sails, so there were not many sails to take in, but the foresail and storm spanker came in slowly enough, as there is always something wrong when sail is to be gotten in quickly

Before this canvas was stowed the order was given to wear-ship, and as the wheel was put hard up, the first puff of the storm struck us. She paid off gradually, however, just in time to keep the main top-sail from shaking, but for a few moments it looked as if she might be taken aback. As good luck would have it, the wind hauled to the southward and began blowing southeast. This helped her off and in a few minutes we had turned around and were plunging madly along under fore and main close-reefed top-sails at the rate of 12 knots an hour, with the sea from the previous gale just forward of the port beam.

It blew so hard that it was impossible to stand on the quarter deck without holding on to something, although the wind came from dead aft, and the ship drove her bows into the seas as though she would stave in the plank ends. This could not last, however, and in a couple of hours the wind blowing against the sea had beaten it down so that a reefed foresail was put on.

Everyone was in high spirits, for each mile passed lengthened the distance between us and the stormy cape. How she tore along! The heavy cross-sea made her plunge and kick like a yearling colt, but the captain had no thought of taking in a single stitch of canvas.

In about an hour more the main top-sail had a little too much pressure and "crack" went the weather clew as it parted the chain sheet and flew forward wildly like a flag in the gale.

"Don't take it in," yelled the captain, and I sprang aloft with the men to lash the bunt of the sail fast to the yard and leave the lee half of it to pull away all it could. We finally got it fast after furious work with freezing fingers.

"Square wind!" yelled little Johnny, "the girls in Frisco have got our towline." Even the grim mate, as he stood near by watching him pull on the weather bunt lines, did not curse or swear, but actually smiled at the young man's audacity. A complete change had come over all, for every hour put miles between the ship and the dismal region of storm and ice, as her jib-boom end pointed a little to the westward of true north.

CHAPTER IX.

January 15. After driving us up into latitude 39 S., a little over a thousand miles, the gale has gradually died out and this morning it is almost calm. We have been just twenty-one days in rounding the Cape, from 50 S. on one side to 50 S. on the other, passing the 50th parallel in the Pacific a little to the westward of 80 degrees W. longitude. The run was one of those lucky drives that a ship often has in those high latitudes, when, just as the grumblers have come to the conclusion that the Cape will not be weathered at all, they having been hove-to for weeks in its vicinity, the wind suddenly comes booming out from a fair quarter and the ship is driven for hundreds of miles on her course toward the land of sunshine. The men, worn out by long exposure to the freezing cold and wet, begin to pluck up their spirits and look forward to the end of the voyage, and we show much less of the savage temper that the continual want of sleep and overwork caused while hove-to off the Cape.

January 18. The clouds hung heavy over the ragged peaks of Mas-a-Fuera as the sun rose this morning. The atmosphere is clear and the temperature is 68 degrees F. in the wheelhouse. About eight bells the heavy pall lifted from over the island and its outline became quite distinct.

To the southward the island rises steep and precipitous for several hundred feet above the sea, and above the outline is undulating until at the northern side it ends with a much lower cliff-like face.

It looked high and sombre as the dark, heavy thunder squall hung lowering above the peaks and had anything but an inviting appearance. On a not very late issue of an Admiralty chart, the position of this island is marked doubtful, for until recent years the Juan Fernandez group had been little visited, except at the old settlement at Cumberland harbor, on the island of Juan Fernandez itself. Lately, the Chilian Government has established a whaling station there and interest in this romantic spot has been revived.

Formerly, whalers would put in at these islands for water and fresh provisions, and, it is said, would plant potatoes, stopping on their homeward cruise to dig them after hunting to the southward.

Sperm whaling is now almost a thing of the past, however, and it cannot be long before this industry will be given up altogether, as the mineral oils and those extracted from seeds of various kinds seem to take the place of that extracted from the blubber of the sperm whale, and are, moreover, much cheaper.

The large sperm-whaler is a thing of the past, and, like the Yankee clipper, will soon be looked upon as a curiosity.

A small whaling brig passed us to the eastward at three bells this afternoon, but was too far off to signal.

Our latitude at noon was 33-40 S. and longitude 83 W.

January 20. Yesterday, while lying almost becalmed, several large fish were noticed swimming near the ship. They proved to be of a kind called "albercose" by the fishermen on the coast. The trolling lines were gotten out and in a few moments they were all cut or broken. The fish were too active and their sharp teeth cut through an ordinary line almost before any strain could be put upon it.

This morning the wind freshened so steadily from the southward that it is almost certain to be the beginning of the southeast trade, although the ship is in latitude 30 S.

The temperature on this ocean is much cooler than in the same latitude on the Atlantic, and in spite of the absence of all animalculæ in the air, it is irritating to the mucous membrane of the throat and nasal cavity.

Nearly everyone on board the ship suffers from some form of catarrh, and while the absence of germs in the air may tend, theoretically, to lessen the danger of acquiring throat troubles, it does not seem to do so practically, unless it is that these diseases are caused by the gases from the cargo of the ship.

All cargoes that are carried by ships give forth gases after being closed up for several months, for it is impossible to keep all moisture out. Railroad iron would be the healthiest if the vessel carried nothing else, but this cargo is invariably mixed with coal and oil and other articles. The phosphate and nitrate cargoes give forth so much ammonia that it requires a strong man to stand the effluvia; while camphor will make any old sailor turn up his nose in disgust at the very thought of being on board ship with it.

January 24. The ship crossed the southern tropic to-day, and is rolling along lazily to the northwest across the beautiful Pacific.

The men are all hard at work again cleaning up the ship. Old sails are being bent, and the strong, new ones are being sent down, to be bent again when she starts south on her homeward voyage in the following summer.

The weather is just comfortable, and new life seems to be infused into everything; even the little sow pig—which is now a big sow pig—grunts and squeals as though there were no such things as spareribs and pork chops.

(To be continued.)

WUX, THE FIRST BOAT TO ARRIVE UNDER THE HENRY BRIDGE. SHE IS A 16-FOOT STEEL CRAFT AND HAS A 1½-HP. ENGINE.

IVY GIRL, THE SECOND OF THE FIRST DIVISION BOATS TO FINISH. SHE IS A 26-FOOTER WITH A 6-HP. ENGINE.

The Webb Endurance Race from Peoria to Henry

THOUSANDS LINED THE BANKS OF THE ILLINOIS RIVER TO WITNESS ONE OF THE GREATEST MOTOR BOAT EVENTS OF THE MIDDLE WEST—THIRTY BOATS STARTED—GOOD WORK OF THE CONTESTING CRAFT

By REX. D. FRAZIER

Photographs by the Author

THE thousands of spectators who lined the banks of the Illinois River at Peoria on June 13 crowded close to the water and set up a great cheer as the famous Meteor, formerly the swiftest boat on the river, gracefully swung up to the starter's dock and then started at full speed for Henry, 34 miles away.

Next to the three scratch boats, she was the last of thirty starters in the second annual handicap race of the Illinois Valley Yacht Club for the Thomas Webb prizes and the Henry and Wilde cups. The first craft, the little 16-foot Wux—an open craft with a 1½ horse-power engine—had gone over the line at 8.47 o'clock in the morning, and others had followed her as their handicaps called them to the line.

Walter Wilde, the owner, was at the throttle of Meteor, with A. T. Griffith at the helm. The boat hit up a good clip over the 34-mile stretch, and averaged for the run 16.43 miles an hour, finishing 6 minutes earlier than her handicap time.

As the starting time of the three scratch boats drew near the sky cleared and the sun burst forth. Fully five thousand people gathered along the levee to watch the start of what was hoped to be a neck-and-neck race between high-speed boats.

The long, 48-foot Hermes, over which there had been considerable speculation, slid slowly down from the I. V. Y. dock, past the sightseers and on to the bridge. Five minutes later she came back, cutting the water like a knife. The crowds cheered, and those aboard waved their hats in response. Something went wrong with her engines, and the slim craft drifted downstream past the watchers.

Meixner was the next boat to make its appearance. Running under full power, it whirled past the starters. As the boat skimmed by, the crew was loudly cheered by friends on shore. Up the river, near Waterworks Point, a small speck appeared, later resolving itself into a boat. It was Truitt in Adieu. With the leaves of her engine hood thrown to each side and casting a film of spray high above each bow, the craft appeared like some big water fowl skimming the lake's surface.

Swinging down past the cheering crowds, the skipper pulled into the dock for instructions, a moment later making a big sweep out into the lake, ready for the start. The three crack boats closed together just above the bridge, coming slowly toward the starting line. Hermes was well in the lead, followed by Meixner, and Adieu brought up the rear, 300 feet behind the foremost boat.

At the crack of the pistol, throttles were opened wide and the three leaped forward, Adieu coming like a greyhound. The boats kept their relative positions as far as the spectators could see; but word was telephoned that when they passed the upper bridge, 3 miles from the start, the three were even. At Kelley's Beach, a mile and a half farther on, Adieu led by half a block, while Hermes brought up the rear, fully 500 feet behind Meixner. From there on Adieu steadily pulled away from the other two, soon being lost from sight around a bend in the river.

Adieu made the run in 1:37:53, hitting an average speed of 20.93 miles an hour. Meixner broke down near Chillicothe and withdrew, while Hermes trotted along at a 17.82-mile pace, finishing at 5:26:30.

The large river steamer David Swain was scheduled to leave Peoria at 2 o'clock sharp, to trail the racers and arrive at Henry near finish time.

The boat left half an hour late, but made good time up river. When the upper bridge was reached Dombroski's Sis was seen to be in trouble. She was tied to the pier, and all hands were frantically working among the machinery. At Kelley's Beach Atalanta, owned by Harry Wasson, passed the steamboat in a whirl of spray.

At Mossville J. Bloom's Siren was in trouble, and at Spring Bay Dr. Arthur Smith's Iris had come to grief.

Notwithstanding these mishaps, the bulk of the fleet kept well in the lead, not a racing boat, with the exception of those named, being sighted until the steamer had passed Chillicothe Bridge. Then at 4.18 Florian, owned by E. J. Adams, was overhauled, and at 4.30 the Ivan was passed. At Lacon the Not Yet was sighted, with Albatross in tow. Passing these, the steamer pulled into the fine stretch of water above Lacon. Here a view of the river miles in length was presented.

At this point a boat was sighted coming along between two veils of spray with a curtain of spindrift above her bows. Everyone flocked to the stern, for they knew that one of the fast ones was coming at last. Straight as an arrow she held her course in

the wake of the steamer, and when within a quarter of a mile her number could be made out. It was Meteor. There was good cause for her startled flight. Another speck was looming big through the rain and coming up hand-over-hand. She proved to be Adieu.

The two great rivals were at last coming together. Meteor took advantage of every point. Sheltered by the steamer, and for a brief moment shot forward by the steamer's wake, she held her own, with Adieu hugging up on her starboard bow. But the advantage was short, and when Meteor shot from the wake of the steamer Adieu literally leaped alongside and then began to forge past. They were now alongside, and so close that the crews of the racers could be recognized. The skipper of Meteor, outclassed as he was, put up a gallant fight. As he had taken advantage of the steamer, he now made a quick sheer toward the port side of Adieu, but was outwitted by Truitt. The winning boat sheered off to keep clear; but as they came stem to stern, Meteor swung into the drag so close to its rival that the man in the stern of Adieu ducked low, apparently to avoid the swinging bow of the following boat.

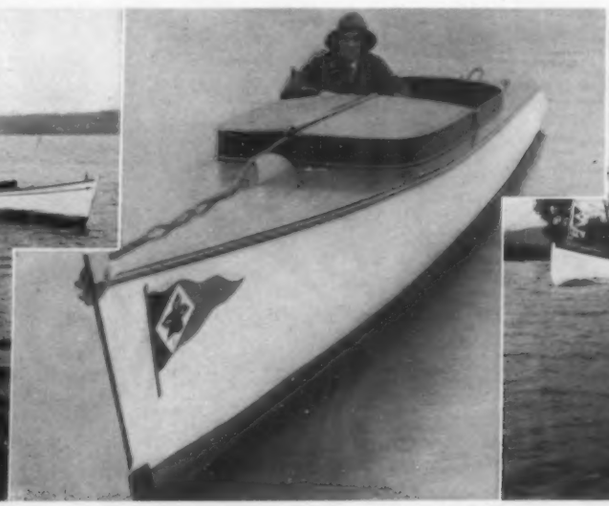
This last spectacular effort on the part of Meteor's pilot to outjockey Adieu failed, and a moment later the faster boat crept forward alone.

Of the thirty-nine boats that entered only thirty finished, and out of this thirty twenty-three were disqualified for over-running their handicaps, and were barred from winning any but special prizes. This left only seven real contenders for the cups and Webb purse.

Gyp came off with first honors, winning the Henry and Wilde cups and $50 Webb purse for the first boat in the first division, boats under 10 miles an hour. Ivy Girl came in second in the first division, winning the $25 Webb purse. Pirate, third in the first division, carried off the $15 Webb purse. Rambler won fourth money.

Hermes was the only boat winning a prize in the second division, boats over 10 miles an hour; all others had exceeded their ratings. Hermes won the $50 Webb purse. Adieu won the $25 special time prize, and the limit boat, Wux, got the $15 for being the first boat under the Henry Bridge. Kenneth, second boat under the Henry Bridge, won $10, and Oregon won Mayor Haws's prize for being the first Henry boat to finish the race.

METEOR IN MID-STREAM. ONE OF THE RACERS AS SNAPPED FROM THE DECK OF THE ATTENDING STEAMBOAT.



ADIEU, WINNER OF THE TIME PRIZE IN THE PEORIA-HENRY RACE. SHE IS A 30-FOOTER AND IS EQUIPPED WITH A SIX-CYLINDER 45-50-HP. ENGINE.

REZWAT, WINNER OF LAST YEAR'S RACE. SHE DID NOT DO SO WELL THIS YEAR. SHE IS A 31-FOOT HALF-CABIN BOAT, AND IS EQUIPPED WITH A 16-HP. ENGINE.

How to Build a Thirteen-Foot Power Tender

PART I

By HOWARD A. PIKE

Illustrations by the Author

DURING the past year a great many small power tenders, ranging in size from 10 to 15 feet long, were put afloat, and the lucky owner of such a craft probably saved himself many a hard pull out to his yacht, and also, if he owned a sailboat, was able to reach port when becalmed by towing in with his little tug instead of breaking his back over a sweep.

A boat on the same lines as the one described in this article was built by the writer and launched late last fall, and although she was tried out under very adverse weather conditions, she proved to be a very able little craft. With the 2 horse-power engine which was installed in her, she showed a speed of between 5 and 6 miles an hour.

This boat was designed especially for the yachtsman who owns a sailboat, say from 25 to 40 feet long, who had much rather have the engine (if he has to have one) in a small tender instead of in his yacht. The materials used in the construction of this boat were white oak keel and frames; California redwood for planking and flooring; mahogany transom, seats and backboard; Spanish

cedar deck and bulkheads. As this construction is so costly and the average yachtsman or amateur does not care to put so much money in a small boat, we will build the boat described herewith of good but plain materials, being careful to pick out perfectly clear stock, free from knots and sappy places.

I presume that the intending builder has had at least a small knowledge of the use of carpenters' tools, and, by the exercise of his best judgment where necessary, it will not be necessary to go into every detail of the construction of the boat.

Try and have plenty of light in your shop, also the tools must be kept sharp to make the work easier; and it is a good idea to get a patent boat-builder's chain clamp, as it will be a great help towards getting seams tight when fastening on the planks.

The dimensions of the boat are as follows: Length on top, 13 feet; length on load water line, 11 feet 8 inches; breadth on top, 4 feet 3 inches; breadth on load water line, 4 feet; freeboard at bow, 1 foot 11 inches; freeboard at stern, 1 foot 4½ inches; freeboard, least, 1 foot 1 inch; draught to rabbet, 6 inches; draught, extreme, 15 inches.

SPECIFICATIONS:

Stem.—To be of clear white oak, 1½ inches thick, and formed of two pieces. The upper piece of straight material and the lower piece or stem knee may be made of a natural crook knee or of straight stock, the same as the stem. Both pieces to be securely fastened together by 3/16-inch galvanized or bronze bolts, the heads being countersunk on the outside and washers put on under the nuts.

Keel Proper.—To be of white oak 1½ inches thick and fastened to the stem knee in the same way as the stem.

Shaft Log.—To be of the same material as the stem and keel, 2½ inches in thickness, and shaped as shown on the cross-section drawing for shaft log, Fig 2. The shaft hole to be bored ⅞ inch diameter. Fasten to the keel with galvanized lag screws.

Filling Piece.—White oak, 1½ inches thick, and fastened to the shaft log with galvanized lag screws.

BROADSIDE AND STERN VIEWS OF A 13-FOOT POWER TENDER, BUILT FROM THESE SPECIFICATIONS, GIVING A VERY GOOD IDEA OF PROPORTION OF HULL, ENGINE AND THE SEATING ARRANGEMENT.

Keel Batten.—Clear, tough white oak ⅝ inch thick, 4 inches wide at the stern, 4 inches wide at center, tapering to 1½ inches at the forward end. Fastened to the keel and shaft log with 1¼-inch flathead brass screws, countersunk.

Transom Knee.—To be made of white oak, a natural crook knee, if possible, 1½ inches thick.

Transom.—White oak, ¾ inch thick, in one piece.

Frames.—To be made of clear, tough white oak ⅝ inch square and spaced 6 inches on centers. All frames, with the exception of a few at the stem, to be continuous from gunwales and fastened to the keel batten with 1¼-inch brass screws, and to all the oak floors by six copper rivets or brass screws, three on each side.

Floors.—To be of white oak ⅝ inch thick and fastened to frames as specified in frame construction and to the keel batten with long brass screws.

Planking.—To be of clear white cedar or other suitable wood ½ inch thick, in full-length planks, fastened to each frame with two ⅞-inch flathead brass screws, countersunk; and if the hull is to be finished bright, the screw heads can be plugged with wood to match the planking. If painted, they can be puttied.

Gunwales.—Made of white oak ½ inch thick, 1½ inches wide.

Seats.—To be made of cedar or white pine ¾ inch thick.

Deck.—Cedar or white pine material ½ inch thick, in strips about 2 inches wide, the seams caulked and filled with marine glue.

Deck Beams.—To be of white oak ½ inch thick, 1 inch wide and to crown, as specified on the plans.

Bulkheads.—Cedar or other light, suitable wood ½ inch thick. The boards to be 3 inches wide, plowed and matched with doors of the same material put in for entering locker space.

Backboard.—To be of oak ⅝ inch thick, put in place so that it can be easily removed.

Flooring.—All flooring to be of white pine or cedar ½ inch thick, with the center plank left loose, so that it can be taken up to clean out limbers, etc.

Chafing Strip.—To be made of white oak ⅝ inch thick, 1¼ inches wide, with a slightly oval section.

Breasthook and Stern Knees.—To be made of white oak 1 inch thick.

The first step taken in building the boat is to lay it down, or, in other words, draw it out to full size for making the paper patterns for stem, keel, shaft log, etc.

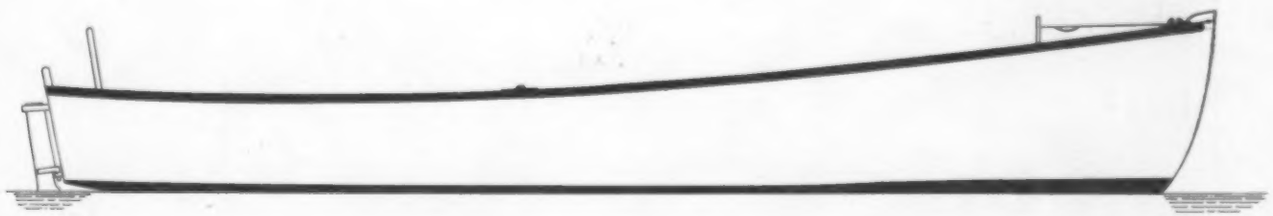
Prepare a clean place on the floor of your shop large enough to take the full-size drawing of the boat, and at the bottom of this space snap down a fine chalk line, or, using a straight edge, mark with a pencil a line about 15 feet long. This line is the base line.

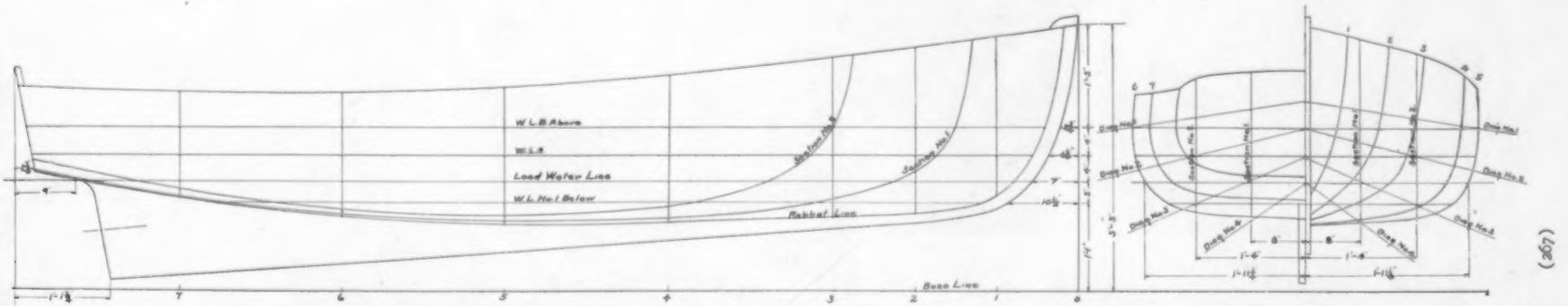
The load water line is next drawn 1 foot 4 inches above and parallel to the base line. Next, water lines *A* and *B* above and number one below are drawn, being spaced as shown on the plans. After these lines have been drawn the lines showing the stations for the different moulds are drawn at right angles to the base line, the spacing of Nos. 1, 2 and 3, 1 foot apart, the rest 2 feet, and all numbered to correspond with those on the plans. Now through these lines we will draw the profile or sheer plan of the boat.

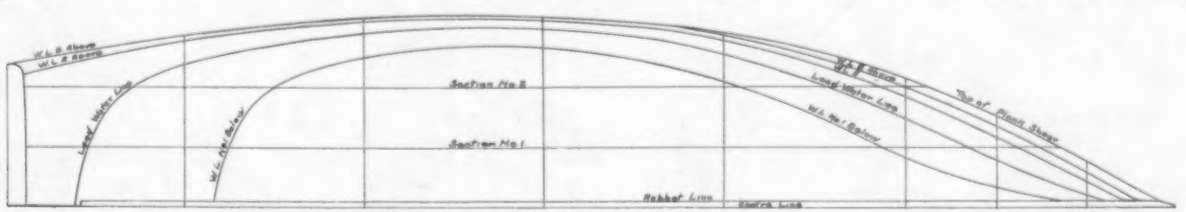
On the "table of offsets" will be found a column of figures for each station representing the height of the sheer line, rabbet and keel bottom from the base line; so taking those given under "heights," we will first mark the points for the sheer line. The figures are given in feet, inches and eighths of an inch. For example, on Station O it reads 3.3.0. We then make a mark 3 feet 3 inches from the base line, and so on until each station has been marked.

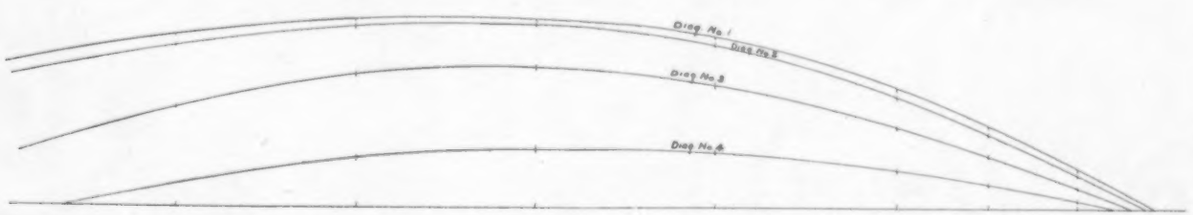
Now drive a nail in at each mark, spring a long batten against the nails and strike in the sheer line with a piece of chalk or a pencil. The button may not touch every nail, as it is very difficult to take the measurements accurately from a small scale draw-

(Continued on page 286.)









LINES AND SHEER PLAN 13-FOOT POWER TENDER.

LINES 13 FOOT POWER TENDER

HOWARD A. PIKE, DDS

General Dimensions	
L.O.A.	13 Feet
L.W.L.	11 Feet 5 Inches
Beam	4 Feet 3 Inches
Draft	15 Inches
Least Freeboard	1 Foot 1 Inch
Freeboard at Stern	1 - 4½ Inches
" " Bow	1 - 11 "
Horse Power	5
Capacity of Tank	4½ Gallons

With Our Readers

To the Editor: THE FORMATION OF A SMALL BOAT CLASS.

Our club hopes to adopt shortly a standard small boat for model races, and I have written to a number of your advertisers for prices on such sailing boats.

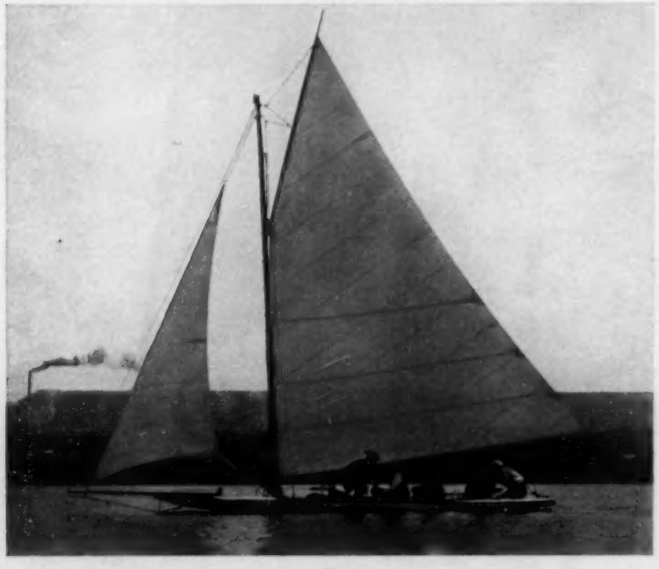
I now write to ask for any suggestions you may be able to make, and enclose a list of those builders to whom I have written. I suppose that the boat we really want is a 15-footer; and as our chief idea is to encourage the sport among our younger members, the expense must be cut as low as possible. We have just built a new club house, and have formed a good basin on the banks of the St. Johns River here, where we have a beautiful strip of water, and I believe we have a good opportunity to revive boat sailing, which has recently almost died out in this neighborhood.

Any suggestions or information you may care to give will be gratefully received.

Walter Mucklow,
Of Special Committee Jacksonville Yacht Club.

We suggest a one-design sloop, 15 feet on the water line, designed by C. D. Mower for racing on Lake Sunapee, N. H. They cost $250 each, are 21 feet over all, 6 feet 6 inches to 7 feet beam. They carry 250 square feet of canvas in a jib and mainsail rig. They are ideal for racing, and remarkably cheap. Or, there is the Manhasset Bay dory, which costs $160, spreading 20 square feet of canvas.

These seem to be about the cheapest and best small boats for young men.



A "Swallow Type" Racing Sloop in the Transvaal. In the background is a gold mine.

To the Editor: A LETTER FROM THE TRANSVAAL.

Someone kindly sent me a copy of the spring number of Yachting by this mail, and I must congratulate you, if you permit me, upon being the editor of such a beautifully got-up magazine. Here in the Transvaal we are compelled to sail on ponds—not very large ones at that—consequently we are always looking out for something small and fast to sail in.

In the number sent me is a photograph of the Gobelin, 15-footer, which has taken my fancy. At present I own a "Swallow"-type boat, and had my sails from a maker in Fall River, Mass., but even she is rather large for the lake. I send you a photograph, which is chiefly interesting on account of its being the only boat of its type in this colony, and on account of showing in the picture one of the gold mines near Johannesburg, "The Nourse Deep." Apologizing for troubling you and with best wishes for the success of your journal,

Yours respectfully,
P. Bevan.

The fact that Yachting circulates in thirty foreign countries results in the receipt, from time to time, of interesting letters such as that from Mr. Bevan. We were glad to be of assistance to the writer in procuring lines for a new class of small boats to be sailed in South Africa.

To the Editor: OCEAN MOTOR BOAT RACING

Gentlemen:—Could you give any idea why a sport like power-boat racing, which is still in the cradle, should be murdered right in its infancy, and by men who are responsible for the birth of same? To quote one of the promoters of the Bermuda power race, Irene II was not designed and built for ocean racing, she being a race cheater invented to win the Marblehead race. She is not the only one—there are more like her—and that is why you do not find a large entry list for any of the races, as a man having a 30-foot boat, with a 12-hp. engine, finds himself rated above the cheaters, and it takes the spirit out of him, because he enters the race with a clean score, and finds before the end of the race that he does not stand any show. What I would like to see is a non-stop marine motor endurance race, over a selected course, engines to be sealed, and only access given to oil and gasolene, and a non-interested observer on every boat, and prize awarded to the engine which stays the longest in contest; no time limit placed.

C. J. Pupki.

There is little question that those who promote long-distance ocean power-boat races must institute certain reforms before the sport will become popular. The results of the last two years have demonstrated quite clearly that ocean racing of gasolene craft is a diversion which appeals to few power yachtsmen. Whether it ever will, depends upon conditions devised to govern such contests. Everyone now admits that the sending of Irene II across the Gulf Stream was an error, and it seems likely that it will not be repeated again. Whether in an ocean race or not, a proper system of measurement for entrants must be devised, and the sooner the better.

To the Editor: STARTING A NEW CLUB

A number of persons who are interested in boating in general have held several meetings here lately, with the idea of forming some sort of club or organization to unite together all who are interested in boats. There are nearly twenty boats here on the Salt Lake at the present time, mostly motor boats; the owners are amateurs, and in meeting have been at a loss to know just what sort of a club to organize and what rules to adopt for the proper management of same; so I have been delegated to write to you for advice, either that you might outline a plan for us or refer us to some club who would be willing to give us a copy of their by-laws and plan of their organization in general. In so much as the boats here are sailing, steam and motor, our idea is to embrace all kinds, at least for the present, that we might encourage all lines of the sport. We want to have some races this summer; will write you particulars when we do.

Joshua Selley,
Salt Lake City, Utah.

We sent to Mr. Selley the constitution and by-laws of the Bensonhurst Yacht Club, which impressed us as being ideal in the way of a basis for newly organized clubs to work on. Since the letter was written we have heard good reports of this club, and prospects of larger growth in the season of 1908 are bright.

TORONTO MOTOR BOATS BURNED

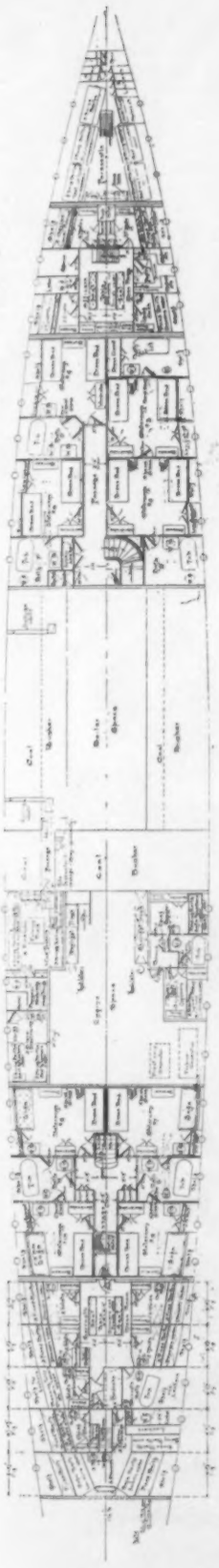
Mr. Samuel W. Howard, of the Toronto Motor Boat Club, sends us announcement of the destruction of club-house and boats of that organization by fire. The club is assured of Yachting's deepest sympathy and best wishes in the efforts which this hustling organization is making to rise, Phœnix-like, from the flames.

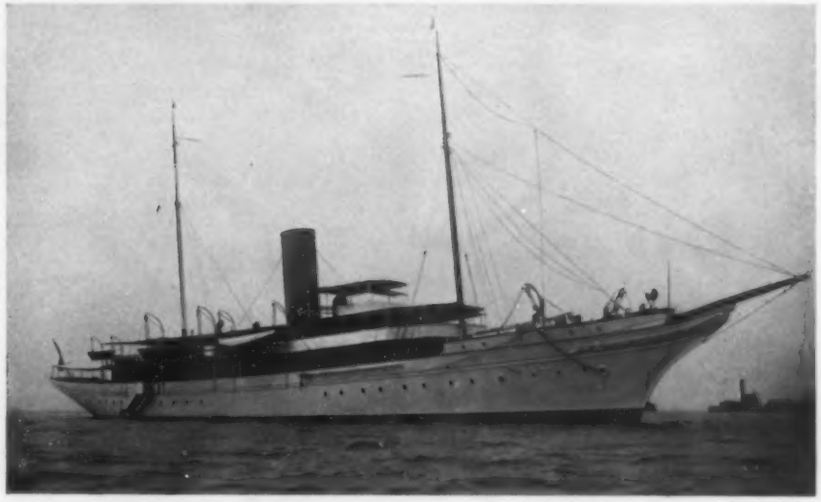
The following is a list of the boats destroyed:

Boat.	Owner.
Aroon	Commodore S. A. Sylvester, loss $900.
Givenda	Vice-Commodore W. A. Hart, loss $1,600.
Kathleen	Mr. Arthur Blight, loss $1,200.
Bonbeur	Mr. W. Munns, loss $500.
Wenona	Mr. S. Howard, loss $2,000.
Reklow	Mr. W. Walker, loss $1,600.
Razorback	Mr. S. Peasey, loss $1,600.
Dixie	Mr. D. C. Brooks, loss $900.
Elsie	Mr. J. Todd, loss $800.
Buzz	Mr. L. Caldwell, loss $900.
Aileen	Mr. W. Gardiner, loss $1,500.
Bonita	Mr. S. Knapp, loss $500.
Penita	Mr. B. Aylesworth.

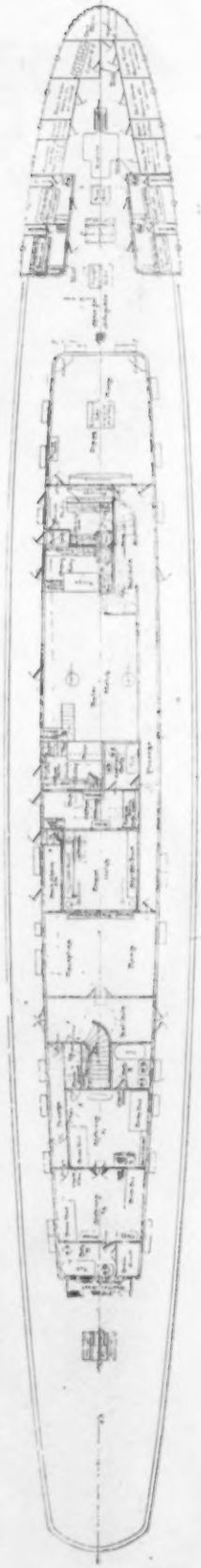
The sole survivor, Peneta, belonging to Mr. J. Beattie, was taken out badly scorched.

The Toronto Motor Boat Club is a thriving organization three years of age. In spite of its misfortune, it will be reorganized next season with new quarters.





VANADIS, AN ENGLISH-BUILT AMERICAN-DESIGNED STEAM YACHT WITH TURBINE ENGINES. SHE HAS MADE MORE THAN 16 KNOTS AN HOUR.



The Turbine Yacht Vanadis

Photographs by Edwin Levick

VANADIS was built for Mr. C. K. G. Billings from designs by Tams, Lemoine & Crane, of New York, and constructed under the immediate supervision of G. L. Watson & Co., and the special inspection of Lloyd's by A. & J. Inglis, of Glasgow. She is the first large turbine yacht built from American designs for an American owner. Her dimensions are as follows: Length over all, 277 feet 6 inches; length on water line, 232 feet 7 inches; beam, 32 feet 7 inches; depth, 19 feet 1 inch. The hull is of steel, and so are the deck and deckhouses. There are eight water-tight bulkheads.

Her machinery consists of three Parsons turbines with the now usual arrangement of one high-pressure turbine in the centre and two of low pressure on the wing shafts, each turbine driving a single propeller. The reversing turbines are situated at the rear end of the low-pressure turbine casings. There are two air pumps, two feed pumps, two condensers, two dynamos; in fact, every part of the machinery is in duplicate. Steam is furnished by two Scotch boilers 16 feet in diameter and 11 feet long, with four furnaces each.

The contract called for 15½ knots under forced draught on trial. She exceeded that by nearly a knot. The turbines give almost absolute freedom from vibration; it is indeed almost impossible to tell, from the motion, whether the yacht is under way or at anchor.

Vanadis has a bunker capacity of 320 tons of coal and carries 125 tons of water. There is a separate system for washing and cooking water, so that pure spring water can always be used for these purposes, whereas for the ordinary laundry work and baths and for feeding the boilers, advantage can be taken of all kinds of water.

The electric outfit is most complete, consisting of one large turbine generator, driven by a Curtis turbine, and one engine-driven set. Forced-draft fans and capstan aft are operated by electricity.

Ventilation has been most carefully studied. In addition to individual skylights for every room, there is an exhaust fan situated in the boiler casing which sucks air through the ducts leading to each stateroom. This fan is large enough to cause change of air through the whole of the owner's quarters every ten minutes. Running lights, and also the range, stern and anchor lights, are electric. Connected with the running lights is an indicator in the chart room, which automatically shows when any light is out.

The log is electrically connected with an indicator on the bridge, so that the speed and distance can be seen by the officer on duty at a glance. There is also on the bridge a device by which the fog whistle can be set to blow automatically at any time, and the time and duration of the blasts are recorded in the chart room, so in case of any question arising from collision or otherwise there is a definite record instead of the testimony of more or less excited persons.

The yacht has a refrigerating system consisting of a Hall carbonic acid gas

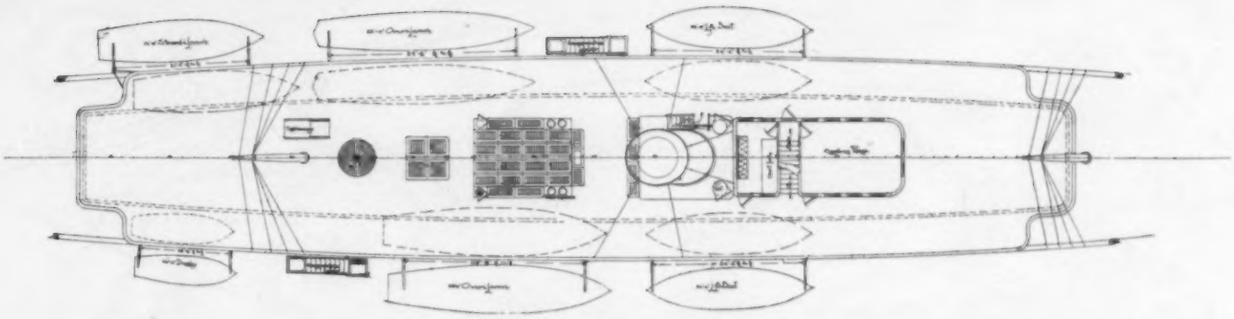
A LOUNGING PLACE ON DECK

MAIN SALOON

VIEWS ON BOARD VANADIS.

BRIDGE LOOKING FORWARD

MRS. BILLINGS' STATEROOM.



machine, which keeps the main cold-storage room, butter, milk and egg room, and pantry and galley refrigerators at their proper temperatures. Its capacity for ice-making is 500 pounds per day. There is also a separate ice box for preserving fish.

The plumbing represents, of course, the latest idea in marine practice. There is running hot and cold fresh water. All bath rooms have tiled floors and tiled walls, and are fitted with porcelain tubs and porcelain lavatories. Vanadis carries two 75-horsepower launches, one 6-horsepower naphtha launch, two life boats and a dinghy.

The keynotes of the arrangement of the owner's quarters are comfort and amplitude. Rooms, passages, stairways are all large and commodious. Everywhere the usual cramped impression of a ship has been avoided. The headroom is ample, not only below but in deckhouses. Living rooms are in the deckhouses on the main and shade deck, and consist of a dining-room forward, with the owner's pantry and galley just aft of it, and then a large vestibule with stairways to the smoking room above and to the guests' quarters below, forward. Aft, at the end of a short passage, is a reception room; aft of that, again, is a vestibule, and then the owner's deck suite, consisting of two large staterooms and two large bathrooms. On the cabin sole deck are situated the staterooms, eight in number, with six connecting bathrooms. The officers and crew are all forward, the servants and stewards aft. Two of the features of the boat are the servants' quarters and messroom, where the valets and maids of the owner and his guests are accommodated and fed without interfering with the ordinary arrangements of the ship. The long shade deck, unbroken except for the engine skylights and the smoking and chart room, are the most attractive features of the ship. In yachting in American and Southern waters the coolness, privacy and luxury of this deck are unsurpassed.

All the work of the ship goes on below, and, except by looking over the rail, one cannot realize that he is on a yacht with a large crew all living within the same ship.

The staterooms are treated throughout in white enamel and mahogany, the main rooms in hardwood. The dining-room is finished in Circassian walnut, with green tapestry, paneled and carved in the Adams style. The reception room is finished in light-tinted green enamel with early Georgian carving. The smoking room is in rosewood, and the vestibule is done in English oak.

ALVA, SINGLE REEFED.

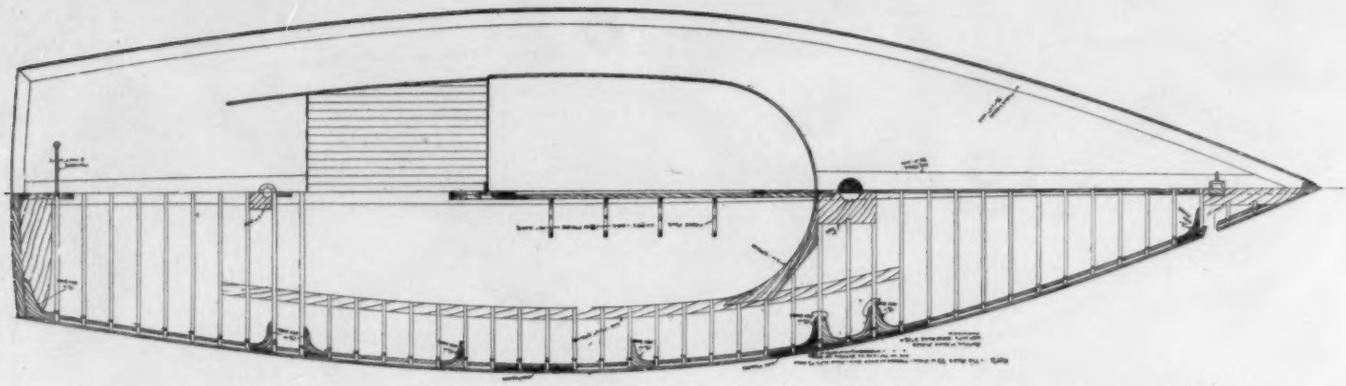
ALVA UNDER FULL SAIL.

ALVA IN CHAMPIONSHIP RACE, PATCHOGUE.

A Great South Bay Class P. Sloop

ALVA, designed by J. A. Connolly, Jr., of Brooklyn, for J. W. Overton, of Bellport, N. Y., is a type of boat that is radically different from any other racing craft on Great South Bay. Compared with the late Great South Bay champion Elvira, Alva is about 3 feet longer on deck. She has a foot greater beam and is 1 foot shorter on the load water line, and carries about 300 feet less lead in her keel. She is very sharp on deck forward, and has a very wide stern, 7 feet 6 inches in fact. Her hull is long and low. Her bow is a refinement of the scow type, and she has a thin after overhang. Her powerful bilges are not carried out in either forward or after over hang. In a strong blow she shows to particular advantage. Her rig is moderate, and she could carry considerably more canvas if necessary. The idea of the designer was to give her a moderate sail area, thereby keeping her racing measurement down. Even as it is, she must allow the ex-champion about 1 minute 30 seconds in a 12-mile race.

She is 40 feet 9¼ inches over-all length, 22 feet 9 inches load



water line, 11 feet beam, 30 inches draft, and she has a sail area of 862 square feet, of which 192 square feet are in the jib and 670 in the main sail. Her record for the season of 1908 is as follows:

July 4.—Won over Elvira at Patchogue by over 5 minutes.

July 11.—Lost to Elvira at Bellport by 2 minutes 20 seconds.

July 18.—Won first championship race at Babylon by over 9 minutes.

July 25.—Won at Bellport.

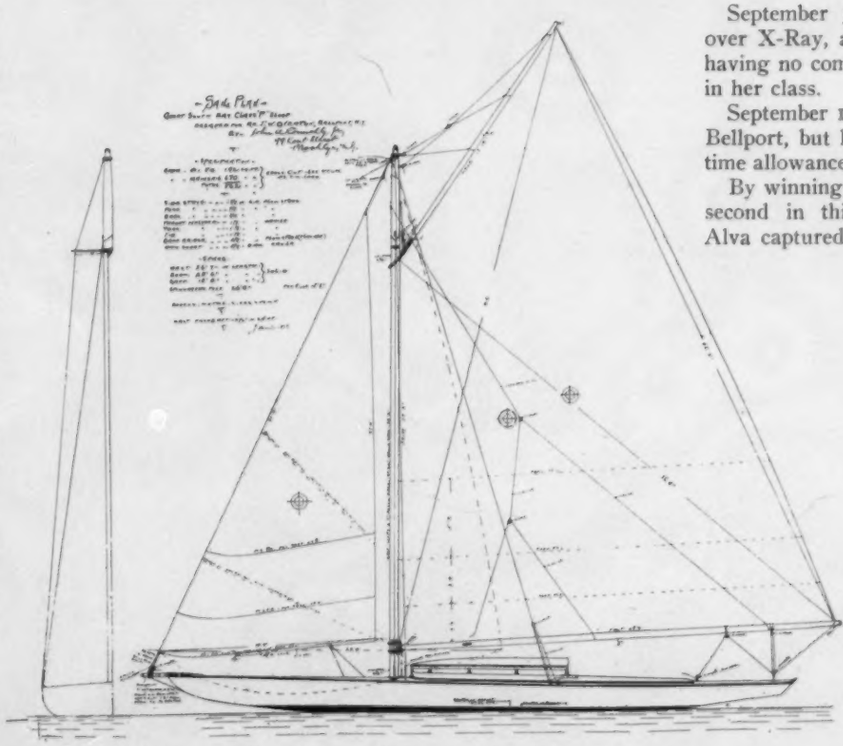
August 1.—Won second championship race at Patchogue by over 25 minutes.

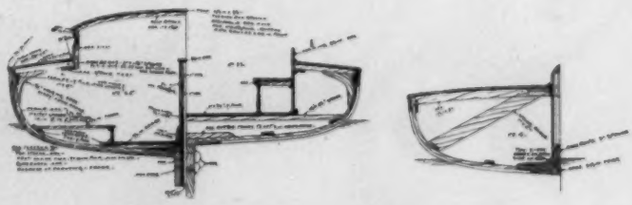
August 8.—Did not race (no competition) Bellport.

August 14.—Finished second in 20-mile cruise of association, defeating Elvira, X-Ray, Constance, Iris and others.

August 22.—Finished second in third championship race to Constance (Bayshore).

August 29.—Did not race (no competition) Bellport.



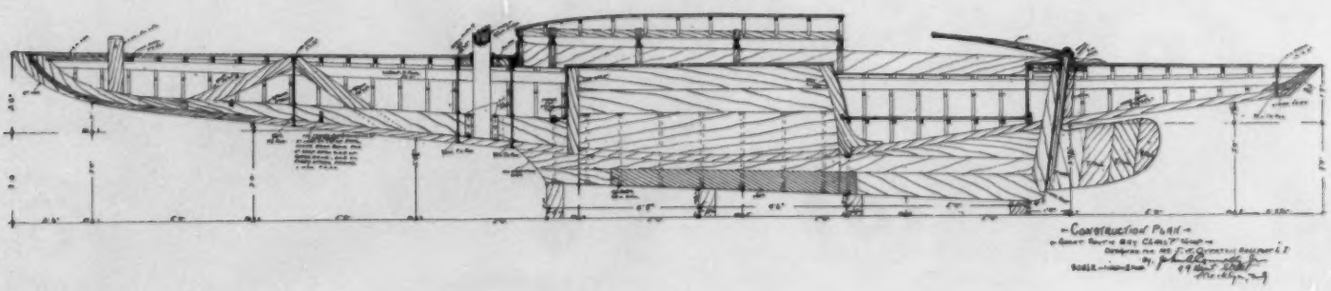


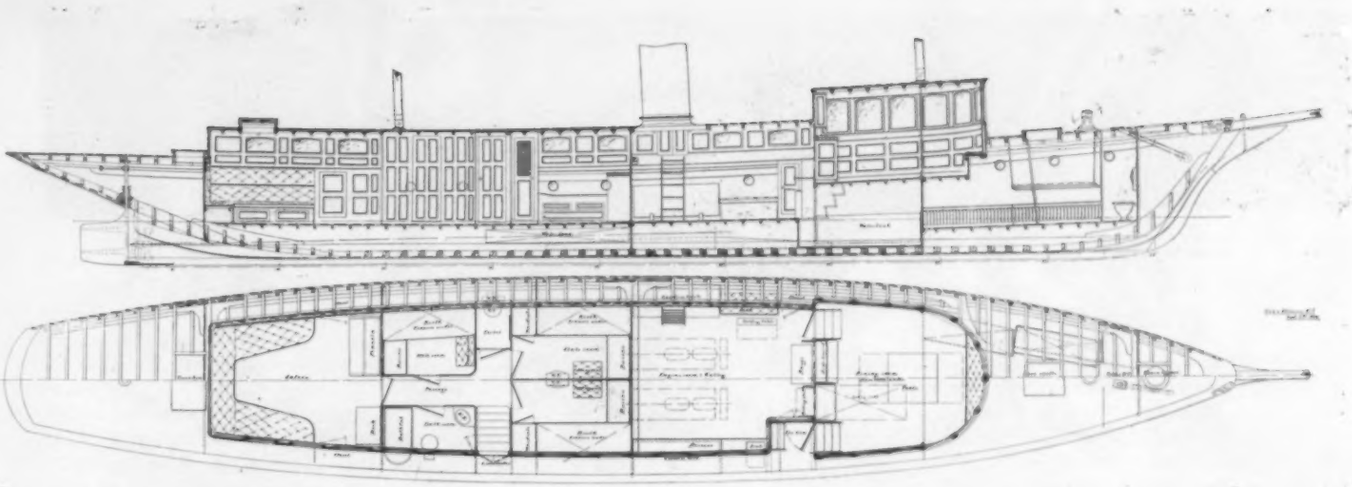
September 5.—Won at Patchogue over X-Ray, a Class "N" boat, Alva having no competitors to race against in her class.

September 14.—Won over Elvira at Bellport, but lost race by 30 seconds' time allowance.

By winning two races and finishing second in third championship race, Alva captured the championship pennant of Great South Bay, L. I. When the breeze was a bit full-sail and over Alva was undefeatable, losing the three races previously mentioned in light weather.

Alva has a particularly good sea body. In the hardest kind of blow, the pounding which one would naturally expect in such a type of craft is almost entirely absent. An examination of her construction plan will show that many new ideas are embodied in her hull, and her sail plan seems particularly adapted to the hull design. In a run from Babylon to Bellport after covering the first championship race Alva made the distance—which must be over 20 miles by water—in 2 hours 30 seconds time flat, or nearly 10 miles an hour.





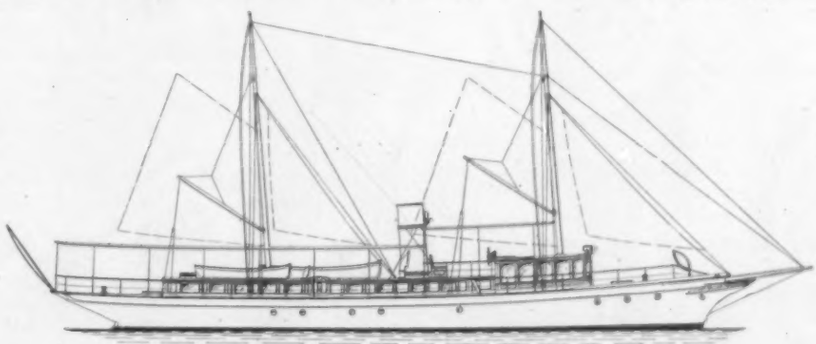
90-Foot Cruiser Reomar

THE accompanying plans are of the 90-foot cruising motor yacht Reomar, now under construction for Mr. R. E. Olds, of Lansing, Mich., from designs by Cox & Stevens. As this vessel is intended primarily for Southern work, the draft has been made unusually light, and especial attention has been paid to ventilation.

The dimensions are:

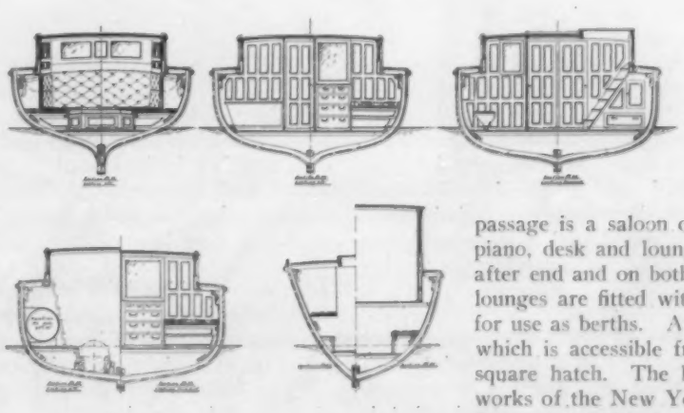
L. O. A., 90 ft. 9 in.
Beam, 14 ft. 6 in.
L. W. L., 74 ft. 3 in.
Draft, 3 ft.

The propelling machinery consists of two 30 horse-power, Twentieth Century engines, driving bronze wheels of 30 inches diameter. The full supply of 350 gallons of gasolene is carried in seamless cylindrical tanks, thus reducing the danger of leakage to a minimum.



As the plans show, Reomar is a trunk cabin vessel with ample beam and good freeboard, her well-balanced ends, pole masts, stack and deckhouse making her in appearance an attractive steam yacht. The cabin trunk is not sufficiently high to spoil the appearance, and there is ample room on each side for a passage fore and aft. At the after end of the cabin trunk is a flush deck space, where a number of chairs can be used, and there is an ample bridge just aft of the deckhouse. There is a low mahogany bulwark forward, and a mahogany hand-rail mounted on metal stanchions runs the full length. The construction is of the best, frames and keel being of white oak, planking of yellow pine, deck of white pine, cabin trunk, deckhouse and all interior joiner work selected mahogany. All fastenings are of composition or copper. The outfit is very complete, and includes an ample electric lighting set driven by a separate gasolene engine, a motor launch, also dinghy, sails and rigging sufficient to handle the vessel in case of the machinery being disabled.

The dining-room is in the deckhouse, and is unusually large. It is finished in selected mahogany, and contains sideboard, dining table and stairs to galley, which is below. Below deck forward there is comfortable accommodation for a crew of four men. The owner's quarters are aft of the machinery space, and are all finished in selected mahogany. The companionway is on the starboard side, and, on going below, one lands in a passage. On the port side there is a single stateroom with a 40-inch berth with drawers under, a bureau and a folding seat. Opposite this is a bathroom with porcelain tub and all modern fittings, the tub and all lavatories having running hot and cold water. Forward of the passage are two large rooms with built-in, double-width bunks, bureaus, wardrobes and folding wash basins. Aft of the passage is a saloon over 12 feet long, with Æolian piano, desk and lounging sofa extending across the after end and on both sides. The cushions on these lounges are fitted with springs, and are amply wide for use as berths. Aft of the saloon is the lazarette, which is accessible from the deck by means of a square hatch. The hull is now under way at the works of the New York Yacht, Launch and Engine Company, at Morris Heights, New York City.



EDITORIAL

Published by the Yachting Publishing Co.: Oswald Garrison Villard, President; Robert M. McBride, Secretary and Treasurer.

Outlook for 1909

With the fall season well advanced, the minds of yachtsmen turn lightly to thoughts of yachting in 1909. In the past summer, predictions that next year would see one of the greatest yachting seasons in the history of the sport came frequently from men who were regarded as occupying positions of persons who knew what they were talking about. There seems no reason at this time to denounce them as false prophets. Unless all indications fail, the spring and summer of next year will show extraordinary activity in all branches of the sport. A season in which several international races are held insures the success of any yachting year, no matter what degree of dullness may otherwise characterize the conduct of racing. There is a chance that there may be a contest of ninety-foot sloops for the America's Cup, but, ignoring that possibility, we find much to look forward to in the meeting of boats of various nations. A sonderklasse race at Marblehead is assured. Three sloops representing Kaiserlicher Yacht Club of Germany will arrive here in mid-season and will strive to prevail against three American sloops. The Royal Canadian Yacht Club will challenge for the Canada's Cup, now in the possession of the Rochester Yacht Club, a notification to that effect being now in the hands of the organization on the American side of Lake Ontario. The Royal St. Lawrence Yacht Club will challenge for the Seawanhaka Cup now held by the Manchester (Mass.) Yacht Club and will build two challengers for that event. This American invasion of Canadians will be attended by deep interest of all American and Dominion yachtsmen wherever located, and that the races will be well contested and thrilling is foregone. From English sources we gather that there is little doubt that the Harmsworth motor-yacht trophy, now in the possession of the Motor Boat Club of America, will not be allowed to rest in peace on this side of the Atlantic. There will surely be a challenge if the length of boats eligible to challenge be increased from forty to fifty feet. The Duke of Westminster, owner of Wolseley-Siddeley, which was defeated on Huntington Bay this summer by Dixie II, is now thinking of building a racer fifty foot long, in order that he may be in a position to race at Monaco in all classes. If the length limit of contestants were increased, the English motor-boat man would undoubtedly send his new fifty-foot craft to this country in an effort to regain the cup taken from England two years ago by the old Dixie. But even without this change in length there is reason to believe that one or more British racing men will bring over forty-foot challengers to speed for the trophy. For our part we feel that any change in the conditions of this international event looking toward larger measurements for competing boats would be an unmixed evil. In the first place, the larger type of boat would cost much more money to build than the forty footer, and this in itself would tend to discourage men who might otherwise be tempted to challenge for the trophy. Few care to take the risk of expending a large sum of money for a racer that proves herself unable to win, however small the margin. Let the conditions alone and there will be a sufficient number of challengers for the Harmsworth prize to satisfy even the most exacting motor-boat enthusiast. Otherwise the outlook for the future will be doubtful. The Larchmont Yacht Club is preparing to institute a new N class—sloops of the Dorello type—which will race as a class on the Sound next year. Dorello was the most successful small boat which raced in Eastern waters last season, and that she should be the forerunner of a large class of boats of her type was regarded as certain long before racing ended last year. Designers are all busy over plans the nature of which they mysteriously decline to make public "just at present," but they are not averse to dropping hints that the prospective boats will play important parts in the yachting season of next year. At various shipyards where yachts are built—at Lawley's, Jacobs', Hawkins', Woods', Herreshoffs' and elsewhere—they are preparing for a strenuous winter, and all in all we may view the prospects for 1909, if not with downright assurance—slips are apt to occur—at least with a high degree of optimism.

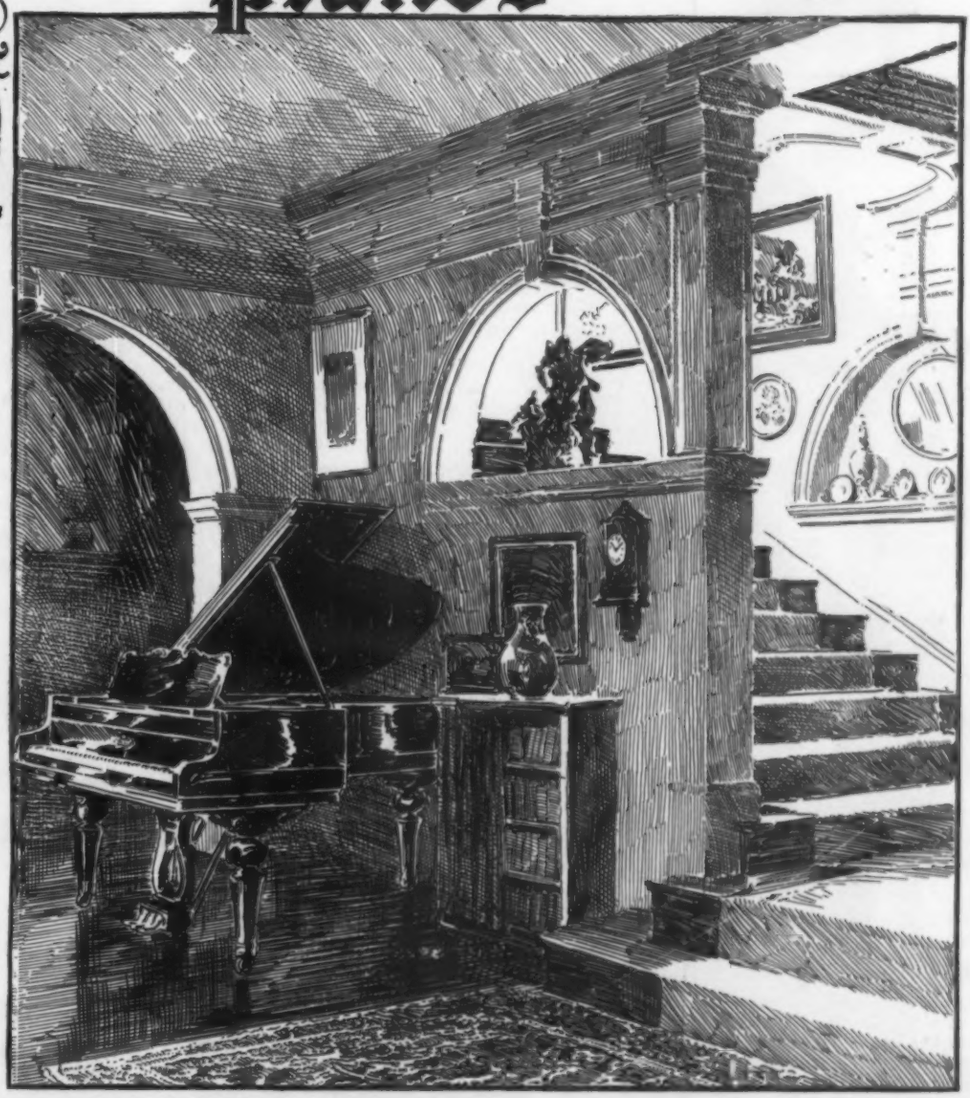
Motor Boat Regulations Enforced

As a result of the activity of the Customs cruiser Timmins in enforcing motor-boat regulations about New York harbor in the past summer, hundreds of reckless or careless persons who operate gasolene craft have been compelled to take precautions looking not only towards their own safety but the well-being of other persons as well. Throughout the summer 1,139 power boats were overhauled by the cruiser, and 729 violations of the common rules of safety in the navigation or maintenance of a motor yacht were discovered. Gen. Clarkson, the Surveyor of the Port, was astonished at the immense number of motor boats in the harbor of New York. Until his office began to take measures for the regulation of these craft his impression was that there were not over four or five thousand of them in all the waters contiguous to New York. There are, in fact, from 18,000 to 20,000. These boats are not recorded, and discovering this the Department of Commerce and Labor has taken steps which will result on a compilation of all motor boats now afloat in this country. Such a work cannot be praised too highly. The record when compiled will be of value to every motor-boat man, to every manufacturer of motor boats and supplies, and, above all, it will go a great ways towards placing this branch of the sport upon a systematic basis.

Yachting and the America's Cup

Our English contemporary, the "Yachtsman," exhibits some surprise at the opinion expressed in various quarters in the United States that the larger good of the sport in this country is dependent upon another race for the America's Cup. The editors are surprised that this should be felt to be the case, especially in the face of the fact that in by-gone years nothing was regarded "as more detrimental to American yachting than a challenge for the coveted trophy." So are we, to be frank. But so far as the sailing of large yachts is concerned it seems to be the case. Automobiles, motor boats, and what not have drawn from active sailing men who at the time of the last cup contest were enthusiastically engaged in the sport. It needs some promise of excitement and thrill and public attention, such as the appearance of a ninety-foot challenger in American waters would involve, to draw them back once more to the things that formerly claimed their devotion.

Chickering pianos



THE RESULT OF SKILL, inspired by a keen appreciation of the artistic and a desire to live up to an enviable reputation, directed by the latest scientific knowledge, and practical experience gained by eighty-five years of piano building. ¶ The resulting excellence, both as to tone, touch and general staying power, is the reason and the only reason for the uniformly high favor in which it is held in exclusive musical circles. ¶ It is conceded to be a standard of comparison for all other makes.

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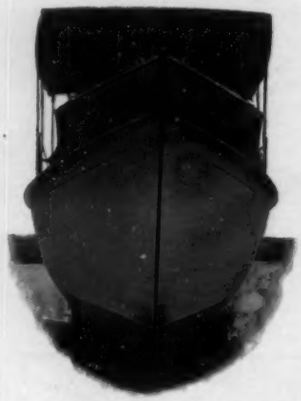
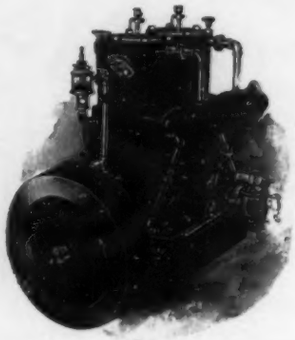


MOTOR BOAT SUPPLEMENT

New Ideas in Craft, Engines and Accessories



Storage Battery on the Sectional System. For some years past we have been buying our book cases, office furniture and portable houses in sectional units.

Now, along comes one of the largest electrical concerns in the country—the Dayton Electrical Manufacturing Company, Dayton, Ohio, and 20 Vesey Street, New York, with a storage battery on the unit system.

Fig. 1.—The Storage Battery Complete.

The battery, the Hubler-Dayton portable storage battery, is for ignition and lighting purposes, particularly on motor boats, and is built along the lines laid down by expert electro chemists.

The Hubler-Dayton storage battery is made up of a number of units. (See Fig. 2.)

Each unit is a battery in itself, a perfect 2-volt battery. The 2-volt 40 amp-hour unit has three plates, the 2-volt 60 amp-hour unit has five plates, and the 2-volt 85 amp-hour unit has seven plates.

To make up a battery of any size desired, such a number of these units as are required are connected together and assembled in solid oak cases.

For instance, if a 6-volt 40 amp-hour battery is desired, three of the three-plate units are connected together in series and assembled in a solid oak case.

For a 6-volt 60 amp-hour battery, three of the five-plate units are connected in series and assembled in a case.

By the unit plan of construction, a battery of any size required for ignition work can be readily assembled. This plan of building batteries has many advantages, as one unit can be removed from the battery at a time in case repairs are necessary.

As 2-volt 40, 60 and 85 amp-hour units all have the same general construction, we shall describe only the 2-volt 40 amp-hour unit.

The cells used in these batteries are of special design and are made of hard rubber. It is, moreover, claimed by the manufacturers that the very best quality of rubber that scientists are able to furnish is used, and the rubber jars are quite as strongly built as are the jars used in electric-truck batteries.

The plates are cast under tremendous pressure by a casting machine of special design and construction. They are so constructed that the active material is absolutely locked in. No expense has been spared in obtaining the very best material procurable for these plates. They are long-lived and are easily renewed at small expense.

The separators are of hard rubber of special design. After the battery is in use, these separators do not change shape. They are never compressed so as to make them flat, and they hold their shape rigidly, allowing free and ample circulation of electrolyte.

The terminals from the bus-bars of the plates in each unit must be brought through the lid of the unit. The problem has been to find a construction by which this can be done keeping the terminal well insulated, and at the same time preventing the acid from leaking out in case of vibration.

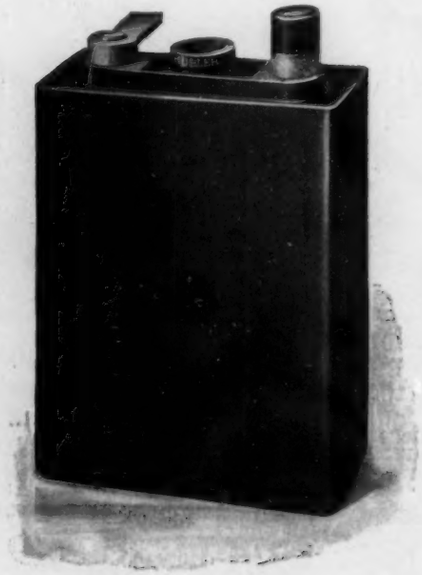


Fig. 2.—Unit Plan of Construction.

Figure 7 shows how this is accomplished. The hole in the lid is cone shaped and its sides are cast so that they are ½ inch in depth.

The stem from the plates which passes through the hole is also cone shaped and it is surrounded by a wide rubber washer which covers its sides entirely.

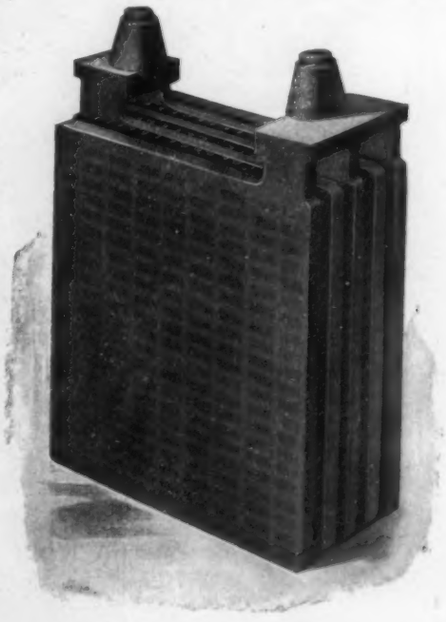


Fig. 3.—Plates and Separators.

The cone stem fits the lid perfectly and is drawn up tightly by a nut on the outside of the lid.

This construction gives a rigid fit, perfect insulation, and absolutely prevents the acid from leaking from the jar.

When a storage battery is being charged, there is a slight evolution of hydrogen gas, and sometimes this evolution of gas is accompanied by a spraying or slopping out of some of the electrolyte, which causes corrosion of wires and metal parts.

The Hubler-Dayton vent plug (see Fig. 7) is so constructed that while it permits of the free exit of the fumes generated by the charging of the battery, it does not permit the spraying of the electrolyte. Should any of the gas condense after emerging from the vent, it is further prevented from coming over the surface of the battery by

Carbon Removed Thoroughly, Quickly, Safely, Cheaply, by

To tear down an engine and scrape out the carbon usually takes two days and costs $15.

Prest-O-Carbon Remover does a better job with no danger of injuring the engine, and cleans four cylinders perfectly in two hours, for about 75 cents.

Cleans cylinders, pistons, piston rings and valves. Increases compression and power. Prevents "pounding" and overheating. Doubles the life of the motor.

Prest-O-Carbon Remover

The only preparation that positively removes **all** the carbon, leaving engine perfectly clean.

Contains no kerosene.

Simply remove a spark plug, fill the compression space with Prest-O-Carbon Remover, let stand for thirty minutes; then replace the spark plug and start the engine. The same liquid can be used several times. Directions on can.

Retail prices (at all dealers); Gallon, $3.75; Half Gallon, $2; Quart, $1.

Try It at Our Risk. If it doesn't do the work as we say, fire it back and your money will be instantly refunded.

REMOVED A HEAVY DEPOSIT

"The Apperson 'Jack Rabbit' motor on which I used this remover, was used in the Briarcliffe race and also the race at Savannah, Ga., in March, wherein 35 gallons of oil were used in 350 miles, and by the use of Prest-O-Carbon Remover the cylinders were perfectly cleaned and left in fine condition."

Elmer Apperson, Designing Engineer

Apperson Bros. Automobile Co., Kokomo, Ind.
Manufacturers of "Apperson Cars."

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MESCO ELECTRIC ENGINES

THREE SIZES

No. 1011 $1.25

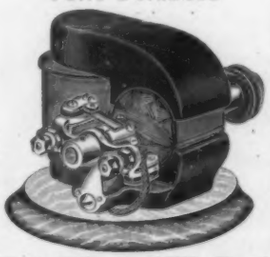
No. 1012 $1.00

No. 1013 $0.75

No. 1011 No. 1012 No. 1013

Fun for boys. Runs toys. Amusing and instructive. Can be run constantly for days with one, two or three dry cells, similar to the Red Seal.

PONY DYNAMOS



Weighs 4½ lbs. Speed 3500. Wound for 4, 6, 8, 10 volts. Can be run by dry batteries. **Price $3.00**

RED SEAL DRY BATTERY

Made in three sizes. Has medium internal resistance sufficient for lasting qualities when not doing service.
Quality guaranteed.
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2445 A, 2½ x 6¾ Price 20c.
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Engines for Any Size Boat, for Any Kind of Work, for Use Anywhere—the Dependable Kind which Have Created the "Buffalo Reputation."

2 to 100 H. P., 2 to 6 Cylinder, in regular Type; 6 to 54 H. P., 1 to 6 Cylinder, in Slow Speed Heavy Duty Type. All "BUFFALO QUALITY" throughout.

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BUFFALO GASOLENE MOTOR CO.

1260-72 Niagara St. Buffalo, N. Y.

A 37-foot stern wheel gasolene launch, which draws but 15 inches of water, and makes better than 11 miles per hour.

a special reservoir in the lid. This reservoir also facilitates filling the battery.

The diameter of the hole into which the vent

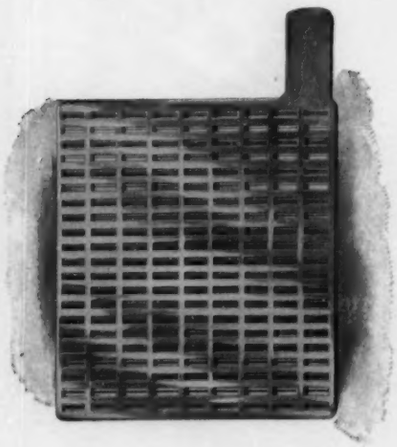

Fig. 4.—Plate.

is screwed is three-quarters of an inch. This is unusually large, and is made so to provide for filling the battery with electrolyte easily.

The cases in which the units are assembled are made of solid oak with lock corners. There are no screws used to hold the box together, to become corroded and allow the box to fall apart. The box has an elegant golden oak, oil-rubbed finish.

By using rubber cells and rubber insulators and inserting the plates in the units with a slight wedge construction, vibration with danger of short-circuiting or breaking are eliminated. All

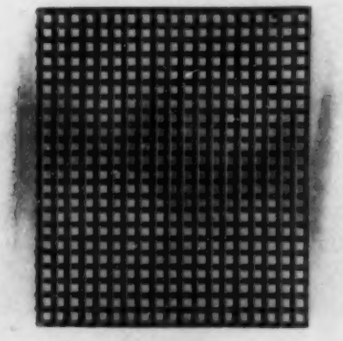

Fig. 5.—Separators

connections are of lead. Lead will not corrode.

By this plate construction the active material is positively locked in the plates and cannot be shaken loose by vibration. By the special vent-plug arrangement corrosion of the terminals on top of the battery is prevented and the battery kept clean.

Summarizing, the H-D storage battery is durable, reliable, non-breakable, acid tight, clean and free from corrosion. with few parts and complications, and occupying much less space than usual; a battery that will stand the jolting and jarring incidental to use afloat. As to capacity, it is so designed that it has the maximum plate surface and freest circulation consistent with its dimensions and weight

The H-D storage battery can be charged by any direct current, used through a resistance lamp. We recommend, however, that you install the Apple Battery Charger right on your car or boat. It saves time and money, and keeps the battery in a healthy, ever-ready condition.

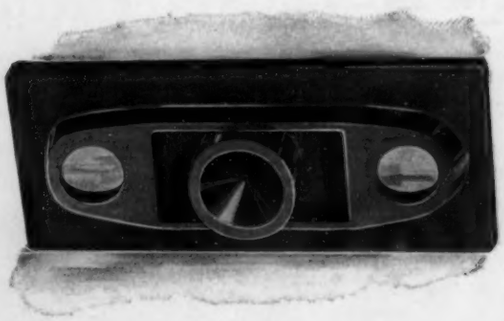

Fig. 6.—Top of Unit.

DATA H-D STORAGE BATTERY.

Type	Volts	Amp.	Min. Chg.	Max. Chg.	High, ins.	Wide, ins.	Length, ins.	Weight, lbs.
2-D	4	40	1.5	4	9	6⅝	4	16
3-D	6	40	1.5	4	9	6⅝	5¾	25
4-D	8	40	1.5	4	9	6⅝	8⅛	39
5-D	6	60	2	7	9	6⅝	8⅛	39
6-D	4	60	2	7	9	6⅝	5¾	25
7-D	6	85	3	10	9	6⅝	10¾	50
8-D	8	60	3	10	9	6⅝	10¾	50

The 5-D, 6-volt, 60 A. H. Hubler-Dayton battery is the most popular size for automobile and motor-boat ignition work. It is extremely light in weight for its rated ampere-hour capacity, and its great capacity insures maximum mileage.

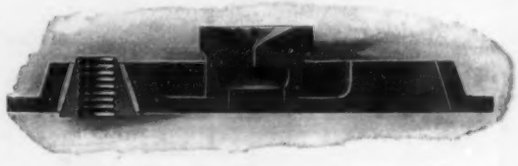

Fig. 7.—Sectional View of Unit Top.

A Stern-Wheel Power Boat Every once in a while, on account of the shallow water which she will be obliged to navigate, a craft is built differing from the usual type in lines and general construction.

A recent illustration of this is the stern-wheel gasolene launch built by the Gas Engine & Power Company & Chas. L. Seabury Company, Con., of Morris Heights, New York City, for use at Tampico, Mexico. The launch, Gladys, is 37 feet over all, 8 feet beam, and has a draft of but 15 inches—far too little to allow of the use of a propeller of a diameter sufficient to give her any practical degree of speed. Instead, therefore, she is equipped with a pair of stern paddle-wheels, connected by means of a chain-drive to a four-cylinder, four-cycle 6½ by 8 Speedway engine, which gives the Gladys the remarkable speed of from 11 to 12 miles per hour.

Yachtsman's Alcohol Lamp The cruiser of to-day is able to do his cooking by alcohol, and the power boat enthusiast is already wondering as to when the time will come when he will use denatured alcohol for fuel.

Meantime, an opportunity has been offered him to utilize in his cabin lamp the same alcohol which he uses either as the regular fuel for his stove or as a priming for his kerosene vapor cooker.

The United States Industrial Alcohol Company, 33 Platt Street, New York City, not content with a line of alcohol-consuming lamps for household use, is now offering to the boat owner for his next season's equipment lamps particularly adapted for marine use.

These lamps are fitted with a Pyro alcohol burner, which will give a light of 45-candle power, and they are fitted with a Jena imported heat-proof chimney.

In addition to the lamp the equipment consists of two double-web mantles, tripod, automatic pourer and two 1-gallon screw cap cans of Pyro denatured alcohol. Not only does Pyro denatured alcohol produce a light four times as brilliant as kerosene, but is absolutely free from the odor, dirt and the necessity of cleaning.

Moreover, the light from this lamp is absolutely white, and, consuming, as it does, very little oxygen is particularly suited for use in the cabins

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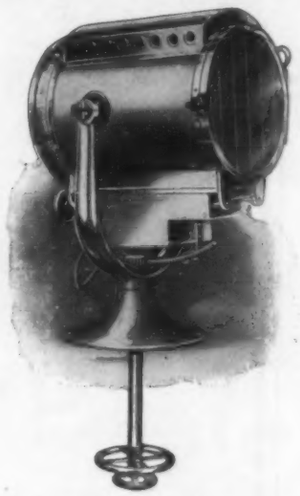

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The Pittsfield Switch

is not equaled or even approached by any other device of its kind for absolute dependability under any and all conditions of service.

Utterly impossible to short circuit batteries through this switch through any combination of switch position and plug.

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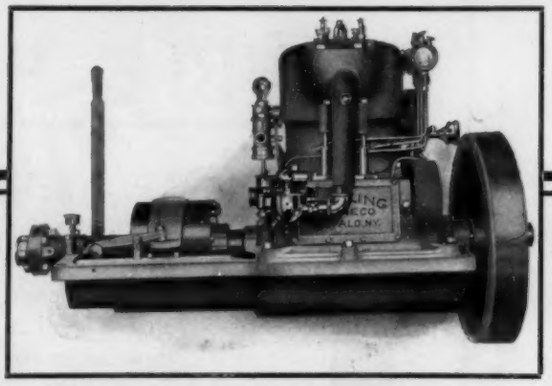

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of yachts. The lamp is absolutely safe. Its absence from soot and smell makes it extremely valuable for marine use, where in the very nature of things anything of an unpleasantly odorous nature is apt to impress itself upon the commissary department. It is such an extremely good proposition that it is bound to come into general favor before the next season is over.

For Removing Carbon. Removing either the cylinder head, or the cylinder itself, to scrape out the carbon deposit, has always been a task which the boat owner has regarded with little enthusiasm.

The advent of anything which will render this scraping unnecessary is apt to be hailed with joy by those skippers who are not particularly imbued with pernicious activity.

Prest-O Carbon Remover in ½ Gallon Container

The Prest-O-Lite Company, of Indianapolis, Ind., have just brought out a new compound, Prest-O-Carbon Remover, and presto! the carbon deposit vanishes.

Presto-O-Carbon Remover is applied in 4-cycle engines when the motor is cold, by merely removing the spark plugs, and the valve covers if possible. The pistons are brought to the firing position at top of the cylinder: (at this position the intake and exhaust valves are closed) the compression space is then filled with Prest-O-Carbon Remover and allowed to stand for thirty minutes. The same liquid can then be removed with an oil gun if motor construction permits. and, in multi-cycle engines, applied to the next cylinder in the same manner. The same liquid can be used for the full set of cylinders, by merely adding enough fresh, to make the necessary quantity to fill the compression chamber, and will therefore be found most economical.

When all the cylinders have been treated replace valve covers and spark plugs. and start motor, opening the throttle wide, and retarding the spark, allowing motor to run several minutes in this position. As soon as the exhaust ceases to throw off blue smoke, stop the motor, remove the spark plugs, and find that the carbon deposits will have entirely disappeared, leaving pistons, valves, cylinders, etc., perfectly clean and dry. In cases where carbon has been allowed to accumulate, and has acquired a hard, almost metallic, consistency, the liquid should be allowed to stand longer, and in exceptional cases a second application should be made to remove it entirely.

The above applies to marine engines operating in fresh water. For marine engines operating in salt water, the liquid should be allowed to stand in each cylinder for an hour longer to obtain the best results.

Prest-O-Carbon Remover is put up in quart, half gallon and gallon cans. each can bearing detailed instructions for use.

The Lipton Cup Race For Twenty-One Footers.

(*Continued from page 243.*)

	First Mark.	Second Mark.	Third Mark.	Finish.	Per Cent.
Columbia	3.29.25	3.52.55	4.42.07	5.12.35	100.0
La Rita II	3.33.35	3.58.15	4.44.18	5.13.58	88.9
Spray	3.31.55	3.56.45	4.43.45	5.14.13	77.8
Chicago	3.31.10	3.54.35	4.46.29	5.15.45	66.7
Jackson Park	3.32.42	3.59.25	4.48.15	5.19.08	55.6
Cleveland	3.36.50	4.02.15	4.51.27	5.21.14	44.4
Cherry Circle	3.37.50	4.03.15	4.52.40	5.29.45	33.3
I. A. C	3.43.30	4.10.40	4.59.30	5.70.13	22.2
Quien Sabe	.....	.....	.....	Did not finish.	

Start at 2.45 P. M.

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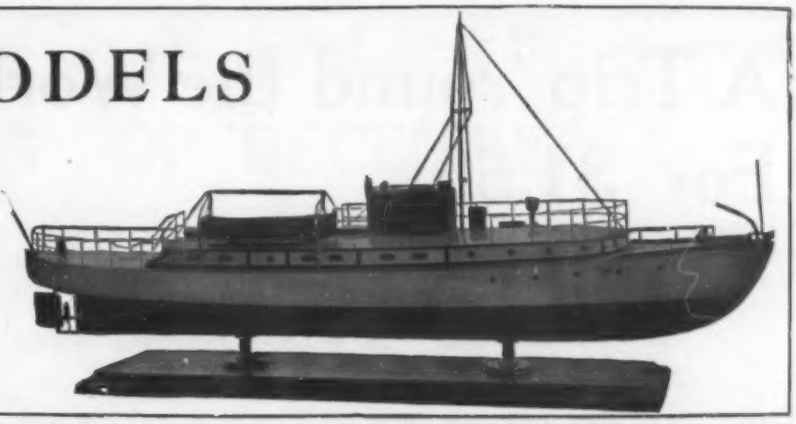

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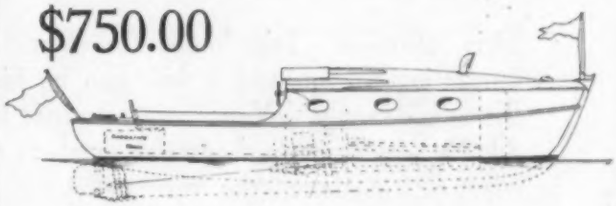

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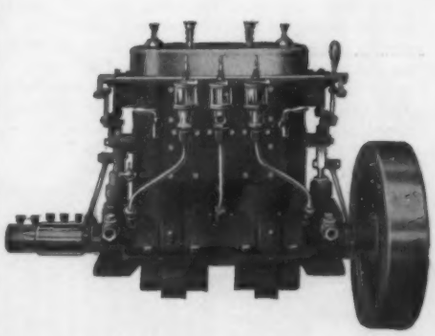

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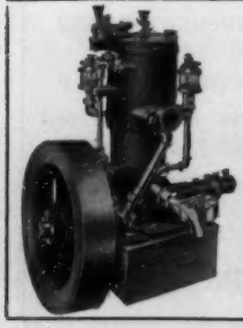

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THIRD RACE, SAILED AUGUST 20.

With the starting gun only seconds away, the boats hung in a cluster on the line, with Cleveland edging up to the best berth, and Columbia, Cherry Circle, Jackson Park and Spray closest up. Cleveland was apparently across the line several seconds before the starting gun barked its signal, and the judges so decided when the boats had all crossed. An attempt was made to megaphone to Cleveland, but the message was misunderstood, and she stood off on her course before the judges' boat overtook her and ordered her back to the starting line. So keen was the competition at the start that every boat was across in less than 10 seconds. I. A. C. brought up the rear, and she was only 9 seconds behind Columbia, which pushed her nose over the line at gunfire, with Jackson Park a fraction of a second behind. The first leg of the square course was sailed to the northeast, and the 5-mile breeze from the southeast sent them skipping away with started sheets on a broad reach. Peare had La Rita II off in front before the leg had been half sailed, and was first around the northeast stakeboat, closely followed by Chicago, I. A. C., Spray, Quien Sabe, Columbia, Cherry Circle, Cleveland and Jackson Park, which had sailed far off the course.

The second leg, owing to a slight shift in the breeze, developed into a beat dead to windward. Bailey worked out of the bunch with I. A. C., and, gaining a lucky shift of wind outside, it was soon evident that he had the race well in hand, though it depended on the positions of the other contenders in the struggle as to whom the cup would go. Cuthbert and Peare finally began to split tacks, and the latter, finding Spray dangerous, and anxious to kill the chances of the rival athletic club boat, took on Price for a match of wits and speed.

At the mark it was I. A. C. first by over 2 minutes. Spray second, La Rita third and Chicago fourth, the three only 40 seconds apart; Price coming down to windward of Spray, and blanketing her for several seconds. Cleveland had come up fast in the windward work, and was only about 4 minutes behind Chicago at the mark, showing that according to all probabilities she would have won the race but for the recall at the start.

The third leg proved a balloon-jib run, with sheets well started, and the best handling of canvas of the race was done here. I. A. C. showed fine speed and gained still more on the rest of the fleet. Chicago made good gains and went past La Rita II, and nearly caught Spray. After rounding, Peare and Price hooked up in another duel, and Price effectually put La Rita II out of it. A slight shift in the wind gave the racers another balloon-jib run, and the battle between the three boats was so close and so keen that, had it been a horse race, there could not have been greater excitement.

At last Cuthbert managed to gain a slight lead and pulled away from the other two, and Chicago slipped over the line second, but winner of the trophy, 28 seconds ahead of La Rita II, and 35 second ahead of Spray. Cleveland had made up more time and was less than 4 minutes behind Spray as she crossed the finishing line. Chicago's winning of the Lipton trophy marks the first victory of the cup by the Chicago Yacht Club.

The record of the timekeeper showing the detailed standing of each boat at the various marks was as follows:

	Actual Start.	First Buoy.	Second Buoy.	Third Buoy.	Finish.	Per Cent.
I. A. C.....	2.15.09	2.43.40	3.29.40	3.55.42	4.18.22	100.0
Chicago.....	2.15.04	2.46.55	3.31.50	3.58.12	4.20.10	88.9
La Rita II....	2.15.05	2.42.05	3.31.20	3.58.30	4.20.38	77.8
Spray.....	2.15.05	2.44.15	3.31.10	3.58.10	4.20.45	66.7
Cleveland.....	2.24.50	2.50.05	3.35.10	4.01.10	4.24.14	55.6
Columbia.....	2.15.00	2.46.55	3.36.15	4.02.00	4.24.34	44.4
Quien Sabe....	2.15.07	2.46.02	3.37.25	4.05.01	4.28.46	33.3
Cherry Circle..	2.15.03	2.47.09	3.42.30	4.07.30	4.29.03	22.2
Jackson Park..	2.15.01	2.50.45	3.45.35	4.10.00	4.32.58	11.1

YACHTING FOR DECEMBER

THE DECEMBER YACHTING will be an issue, which for practical value and entertainment to both motor boatman and sailor, will prove a "find."

HERE ARE A FEW OF THE GOOD THINGS

THE ESCAPE OF FLEUR DE LYS. By HENRY IRVING DODGE. A tale of the Spanish War in which a schooner yacht escapes from the war vessels of Spain.

THE INLAND LAKE REGATTA. By P. BARTHOLOMEW. Wherein is found a graphic description of the greatest yachting event of the inland lakes of the Northwest.

A PRACTICAL LUBRICATING SYSTEM. By E. T. KEYSER. The easiest way is always the most practical and Mr. Keyser seems to have hit upon something that is worth the telling.

KNOTS. By W. E. PARTRIDGE. The author of this valuable series appearing in past issues pursues the subject further.

A STUDY OF BOATS' BOWS. By FRED W. GOELLER. An article in which the development of yachts' bows are considered, and bows now favored by the designers analyzed.

FLAG ETIQUETTE. By WARREN HAPGOOD. What flags to fly under all circumstances, and how and where to fly them.

SPARK PLUGS AND THEIR ILLS. By HERBERT L. TOWLE. An enlightened treatise upon a subject with which the average motor boatman is not too familiar.

GASOLENE IN DEEP SEA WINDJAMMERS. By K. E. TREADWELL. The burning of the gasolene auxiliary schooner Ceylon has opened a question which is being eagerly discussed. Mr. Treadwell sums up for both sides and supplies opinions of his own.

HOW TO BUILD A THIRTEEN-FOOT MOTOR TENDER. By HOWARD A. PIKE. The second instalment of a valuable contribution.

THE MONTH IN YACHTING. In this department will be found the usual snappy comment upon current events in the world of yachting.

AROUND THE HORN. By T. JENKINS HAINS. This thrilling story of a trip from New York to San Francisco in a deep sea square rigger is concluded in this issue.

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If you are only a casual reader of YACHTING, why not subscribe so that you may receive the magazine regularly. There is always something of practical value each month that is worth more to you in money than that number costs, hence the mistake of missing even a single issue. An investment in a subscription now will yield dividends of good things twelve times next year. To new subscribers who will mail their subscriptions now, we will send the magazine from December, 1908, to January, 1910.

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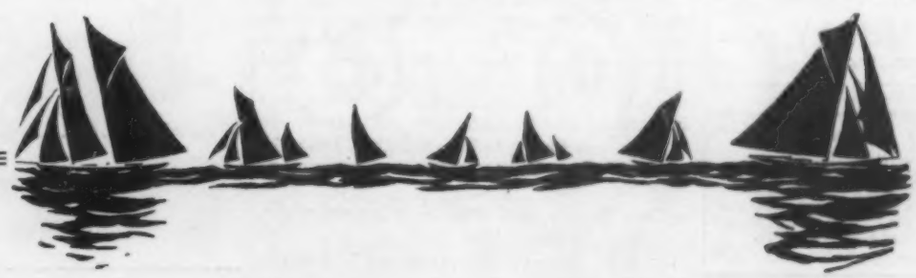

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SEND FOR CATALOGUE.

The National Motor Boat Carnival.

(*Continued from page 245.*)

Den, started, the former crossing the line at 2:40:20, and Dixie following 2.3 seconds later.

In the long-distance championship, contested by the speed boats over a course to Poughkeepsie and return, and for the cruising boats to Peekskill and return, the two classes were scheduled to start at 9:30 and 9:35 A. M., respectively.

But when Wednesday morning came, a dense, dank, low-hanging fog covered the river from shore to shore, and gave every promise of making the contest an exceedingly dangerous one for the high-powered, swift-moving speed craft. The cruisers started off at 10:10 A. M. Most of the contestants got across the line in a very pretty bunch. S. W. Granbery's Irene had evidently been figuring on getting over just the instant as the gun was fired, but miscalculated the distance a trifle, and the result was there were only two boats astern when she crossed. E. J. Steiner's Wanderlust and R. C. Annett's Aquilla crossed the line close inshore and out of the tide, neck and neck, so to speak, and were at it nip and tuck as far as they could be followed by the eye. The Alabama got away about the middle of the bunch, but before she was out of sight led the fleet with a good distance of water between her stern and their bows. The other starters were: A. I. Piercy's Eagle, H. A. Johnson's Joker, S. Cochran's Eronel, W. M. Duncan's Barbara, St. G. Barber's Elsie, B. C. Gould's Betsy, M. P. Gould's Wamego, W. Arnson's Runaway, W. Murphy's Mary M., Selma of David Crow's, H. Schack's Rose, and Ida F., owned by F. B. Archbold.

By 11 o'clock the fog had lifted sufficiently for the racers to feel reasonably certain that they could spot a floating log before they collided with it, and the Artful, owned by H. Coon, W. J. Brainard's Mercury, F. H. Tucker, Jr.'s Macon, Geo. F. Blake's Vim, and Chas. Seabury's Speedway 1920, said that they were ready to go.

By very careful and skillful jockeying, Mr. Seabury's Speedway 1920 crossed the line first, close into shore and well out of the tide. The last of the remaining starters were over the line and out of sight up the river when H. R. Sutphen, who had been looking down the river through a pair of glasses and trying to act as if he was not impatient, spied his boat, the Elco, coming up stream with a bone in her teeth.

The race had been started without her, as it was feared that, on account of the fog, which was thicker down the river, it would be impossible to count on her getting to the starting line in time. As she came up on the jump, her flag was handed over to her as if it had been something hot of which the dispenser was glad to get rid, and over she went with 3 minutes 47 seconds between her and the last of the predecessors over the line.

Eagle was disabled and did not finish until 8:29:19. Joker was protested, on the ground of having removed her top, and thereby being converted into an open launch, which took her out of the class in which she had entered the event.

In the racing class the starters were H. R. Sutphen's Elco, H. Coon's Artful, a 22-foot craft, with N. J. Brainard's Mercury, a 28-footer, which was disabled and did not finish; Macon, owned by F. H. Tucker, Jr., steered by Maurice Whittaker, while Vim, the winner of the contest, won in corrected time 3:47:59.

The events for Thursday, the 24th; Friday, the 25th, and Saturday, the 26th, were a series of races for:

Class A, high-speed boats of 33 feet and under.

Class C, 12-metre class.

Class D, motor yachts over 60 feet in length.

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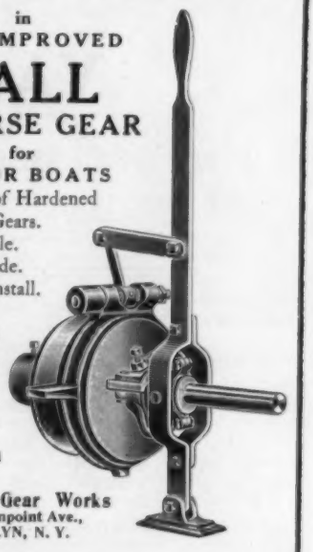

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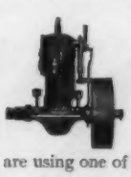

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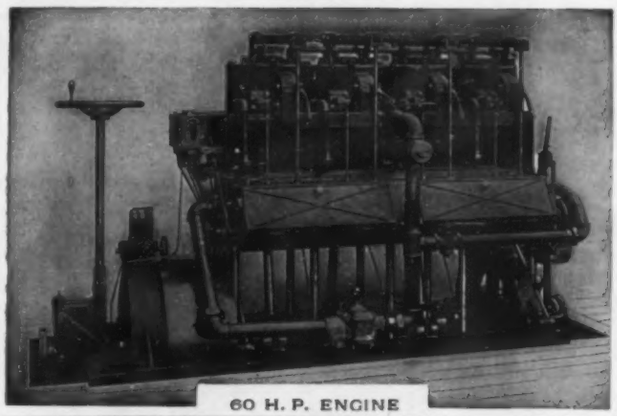

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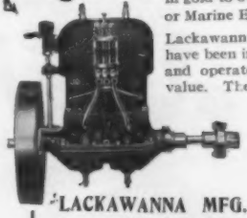

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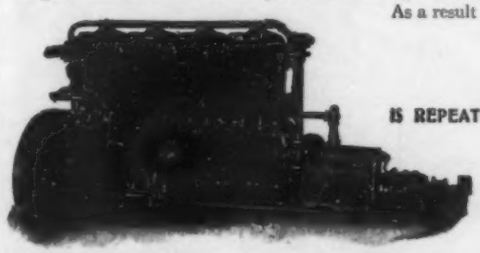

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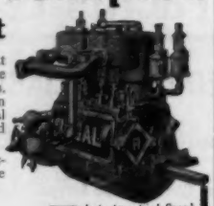

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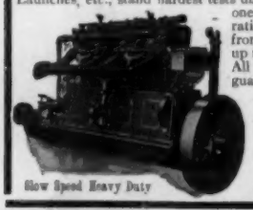

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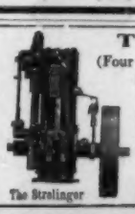

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Class E, cabin boats over 40 feet and under 60.

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The description and result tables will best show what was accomplished in these last three days of contest.

The winning boats for the week's contest were as follows:

Dixie II.—International championship, mile championship, free-for-all championship.

Vim.—Interstate championship, first prize long-distance speed boat championship.

Alabama.—Motor yacht championship, first prize long-distance cruising boat championship.

Eagle.—Cabin launch championship.

Speedway.—Special prize for 40 foot and over.

Artful.—Second prize long-distance speed boat championship.

Elco.—Third prize long-distance speed boat championship.

Irene II.—Second prize long-distance cruising boat championship.

Barbara.—Third prize long-distance cruising boat championship.

Wanderlust.—Fourth prize long-distance cruising boat championship.

How to Build a Thirteen Foot Power Tender.

(*Continued from page 266.*)

ing, so in case it does not touch each point exactly, let the batten go above or below, whichever the case may be, so that it will make a true and fair sweep. This is called "fairing up," and must be done carefully with all the lines.

After drawing the sheer line we will proceed with the rabbet line and keel bottom, using the figures given on the "table of offsets" in the same way as before. In drawing the stem a small flexible batten may be used with good results.

After these lines are all drawn our sheer plan is completed and we are ready for the cross sections of the different stations from which we will get the curves for the moulds.

The easiest way to do this, when the drawings are for small boats, is to draw the cross sections on heavy wrapping paper. Procure a piece a little longer than the breadth of the boat, and draw in the base line, load water line, water line number one below, water lines A and B above.

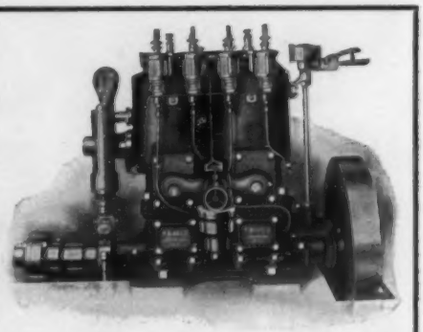
Now draw a line in the center and at right angles to the base line. This is the center line, and from this line we measure the distances out on the water lines for the cross sections at the different stations. The measurements to use are given on the "table of offsets" under the column marked "half breadths."

After marking the points for the cross sections or body plan, the lines can be drawn in by using a small flexible batten held against nails driven in at the points.

These lines are to the outside of the planking, and as it is necessary to make the moulds to the inside of the planking it will save a little work by taking off the thickness of the planking at this time.

This may be easily done by taking a small piece of wood one-half inch thick (the thickness of the planking) and holding it between the batten and your pencil when drawing the lines. which will, of course, give you the inside of the planking. This gives us the outline for one-half of each mold.

(*To be continued.*)



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The Trough of the Sea

O'er the glad waters of the dark blue sea
Our thoughts as boundless and our souls as free
Far as the breezes can bear, the billows foam
Survey our empire and behold our home.
—Lord Byron.

Size of picture, 12 x 14½, on double art mount.

In green, $1.50. Hand tinted in full color, $3.00.

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The Moon Path

The moon enchants the watery world below
Wakes the still seas, and makes them ebb and flow.
—Nathaniel Lee.

Size of picture, 17 x 21, on double art mount.
Price, $1.50. Hand tinted, in full color, $3.00.

Clewed Up

The sloop-of-war. High-powered engines and hulls of tempered steel have replaced the "oak hearted" sea fighters of an older day, but a few still remain to speak of things that were.

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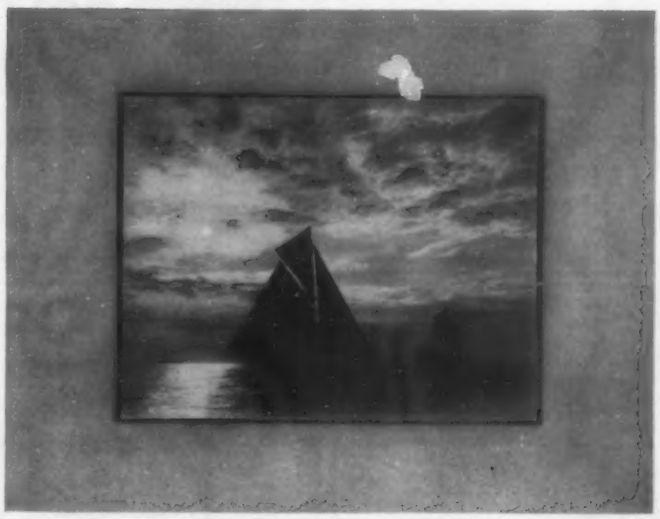

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A Good Slant of Wind

The last of a great line:
"Good-bye Romance" the skipper cried
"She vanished with the coal we burn."
—Kipling

Size of picture, 11 x 14, on plate marked mount.

In rich green, $1.50. Price, hand colored, $3.00.

The Night Patrol

Night after night the life saver treads his lonely tour across the yielding sands with eye turned ever seaward, keeping watch and ward lest the hungry deep engulf those who might be saved.

Size of picture 11 x 14, on plate marked mount.

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This outfit consists of embossed brass Lamp with 45 candle power Pyro Alcohol burner. Two double web mantles. Jena imported heatproof chimney. Tripod. Automatic pourer and two one-gallon cans Pyro Denatured Alcohol. *Remember, we pay all charges.*

This is an offer that everyone, who has the interests of the home at heart, should take advantage of.

It is made for the purpose of further introducing PYRO Denatured Alcohol, the wonderful new liquid fuel for lighting, cooking and heating.

Thousands of dealers are now selling PYRO Denatured Alcohol.

The Lamp included in this offer is an *exceptional value.* It is the *newest type* of Table Lamp and has all the *latest improvements.*

It is sent complete with two double web mantles, tripod, Jena heatproof chimney and the new automatic pourer.

So simple is this lamp that a child can operate it. Furthermore, it is *absolutely safe.*

With each lamp we furnish enough PYRO Denatured Alcohol *to last a month,* if lighted two and one-half hours a night.

PYRO Denatured Alcohol is simply ordinary alcohol made *unfit to drink.*

Because of its *unquestioned superiority* as a fuel Congress recently removed the tax of $2.08 per gallon.

In Germany last year *over sixty million* gallons of Denatured Alcohol were consumed. It is the illuminant in the Emperor's palace.

Everyone who has used Denatured Alcohol will tell you that this wonderful fuel is more like *real sunlight* than an artificial illuminant.

It furnishes a *pure, steady* light as *clear, white* and *safe as sunlight.*

No fuel consumes *so little oxygen* in the air of a room. No light is *so easy on the eyes* for reading, writing or sewing.

Don't for an instant confuse PYRO Denatured Alcohol with kerosene because it is burned in a lamp.

PYRO Denatured Alcohol not only gives a light *four times* as brilliant as kerosene, but it is absolutely free from all the odor, dirt and trouble of kerosene lamps.

Wouldn't it be a relief to you to use a fuel that requires *no attention*—no chimneys to clean and polish, no wicks to trim, no bowls to fill with ill smelling, clothes staining kerosene?

Wouldn't you and your family appreciate the *absence* of soot, smell and danger?

Wouldn t it be a comfort and pleasure to have your home lighted with a bright *sunlight-like* radiance, instead of a feeble, yellow, malodorous, air contaminating kerosene lamp?

No one who values health, comfort, cleanliness and economy would think of using a kerosene lamp after enjoying, the *countless advantages* of Denatured Alcohol.

Remember, we give *two full gallons* of Denatured Alcohol with every lamp—enough to last a *whole month.*

We prepay all charges. Send $5.75 (postal note, money order or express order) for all points East of the Mississippi—for points beyond add 50 cents. This special offer is open only for a *limited time.* By acting on it *immediately* you will insure *prompt* shipment. Address

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Alcohol Burner	38 hrs. 30 min.	45.2	1740
Kerosene Lamp	32 hrs. 42 min.	14.8	484

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